THE RUBBER AGE AND TIRE NEWS

OCT. 10 1919 VOL. VI. NO. 1

Member of the Associated Business Papers, Inc.

INDEX TO CONTENTS

Commercial Possibilities of Para Seed Oil..... 13
National Exposition of Chemical Industries..... 15
Waste and Salvage in Rubber Factories..... 18
Cobalt as an Accelerator..... 19
How to Obtain an Export Trade..... 20
News from the Rubber Metropolis..... 21
Goodyear Americanization Plans..... 22
Brighton Mills Plan Technical Courses..... 22
Industrial Federation of Gillette..... 22
Activities of the Rubber Association..... 23
New Express Packing Rules..... 24
American Zinc to Locate in Columbus..... 24
Personals of the Trade..... 25
Pardee to Represent Manufacturers..... 26

MARKETS:

Manufactured Rubber Goods..... 27
Cotton, Yarns and Fabrics..... 27
Chemicals and Compounding Ingredients..... 28
Crude Rubber..... 29
Scrap Rubber..... 29
American Rubber Patents..... 30

THE GARDNER-MOFFAT COMPANY, Inc., *Publisher*

HARTFORD BUILDING, UNION SQUARE

22 EAST 17th STREET, NEW YORK

SUBSCRIPTION PRICE: TWO DOLLARS PER YEAR, SINGLE COPIES TEN CENTS. CANADA: TWO DOLLARS AND A HALF A YEAR. FOREIGN: THREE DOLLARS A YEAR. COPYRIGHT, 1919, BY THE GARDNER-MOFFAT COMPANY, INC., PUBLISHERS.

ISSUED ON THE TENTH AND TWENTY-FIFTH OF EACH MONTH. FORMS CLOSE FIVE DAYS PREVIOUSLY. ENTERED AS SECOND-CLASS MATTER MARCH 26, 1917, AT THE POST OFFICE AT NEW YORK, N. Y., UNDER THE ACT OF MARCH 3, 1897.

TRENTON N.J., U.S.A. **ESSEX RUBBER COMPANY, Inc.** TRENTON N.J., U.S.A.

"ERCO" SOLES
"ESSEX" RUBBER HEELS
"TITE-EDGE" RUBBER HEELS

MOLDED SPECIALTIES

Trade Mark

AUTOMOBILE ACCESSORIES

INNER TUBES, CEMENTS, ETC.

MOLDED RUBBER GOODS

COMPRESSED AND LIGHT
CARBON BLACK

1890 L.H.B.CO.

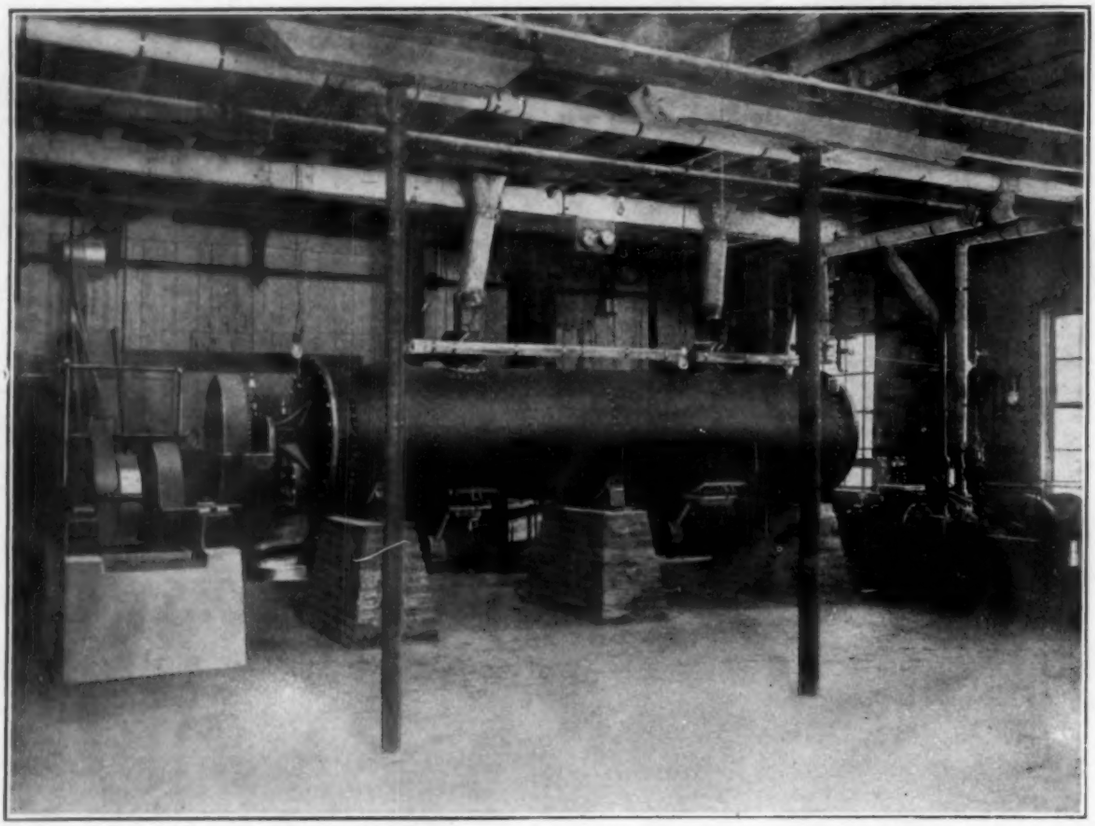
CARBONATE AND OXIDE
MAGNESIA

L. H. **BUTCHER** CO., Inc.

ESTABLISHED AT SAN FRANCISCO 1890

NEW YORK SAN FRANCISCO LOS ANGELES SEATTLE AKRON

THE PUBLIC LIBRARY
DETROIT, MICH.



Installation of Devine Vacuum Rotary Dryer

ZINC DRYING

The Devine Vacuum Rotary Dryer

A Devine Vacuum Dryer is very well adapted to the drying of Zinc Oxide, Whiting, and all other Rubber Compound materials.

The advantages of its use for this kind of work are self-evident from these facts. Our Rotary Dryer will dry moist material to bone dryness very quickly and at a low temperature, thus saving time and fuel. It is absolutely independent of climatic conditions. It eliminates bubbles and explosions during vulcanization, and as can be seen from the illustration, our Dryer requires very small space for installation.

Vacuum Rotary Dryers are built in any size required for any stated capacity.

Write us for Bulletin 103

J. P. DEVINE COMPANY

1362 Clinton Street, BUFFALO, N. Y.

42nd Street Building
New York City

C. B. Acheson
Peoples Gas Building, Chicago

Jas. Livingston, Ltd.
London

G70.5 T8 v.6

L. D. GARDNER, PRESIDENT
W. D. MOFFAT, VICE-PRESIDENT
W. I. SEAMAN, TREASURER

THE RUBBER AGE AND TIRE NEWS

PETER P. PINTO, EDITOR
H. M. WILLIAMS, GENERAL MANAGER
H. B. SEYMOUR, BUSINESS MANAGER

Vol. VI | October 10, 1919 | No. 1

Commercial Possibilities of Para Rubber Seed Oil*

By B. J. Eaton

Since the publication in the *Agricultural Bulletin, F.M.S.*, Vol. VI, No. 5, February, 1918, of the results of the investigations carried out at the Agricultural Department which has attracted considerable attention outside Malaya, a detailed report has been received from Messrs. Rose, Downs and Thompson, the oil machinery manufacturers of Hull, on a consignment of about 26 tons of undecorticated rubber seed despatched by the Director of Agriculture. The information contained in this report, together with observations made by the Director of the Imperial Institute, are embodied in the present article.

The seeds composing this consignment were collected from several estates in Selangor, the cost of collection varying on the different estates. The consignment consisted of three different lots of 87, 162 and 204 bags, respectively, or a total of 453 bags, which weighed on receipt in Hull 25¾ tons.

The following are the details of the cost of the seed and total value of the oil and meal as supplied by Messrs. Rose, Downs and Thompson:

	Lbs.	Per Cent
Weight of seed treated	51,500	
Weight of oil from whole seed by extraction	9,900	= 19.30
Weight of foots	1,500	= 2.93
Weight of meal	38,400	= 76.60
Loss in working	600	= 1.17

ACCOUNT SALES.

Oil (5 tons, approximately)	$1,487.25
Meal (19¾ tons, approximately)	789.00
Total	$2,223.25

Oil ..... $200 per ton. Meal ..... $40 per ton.

COSTS.

Less disbursement and expenses, London charges, customs, entry port dues, landing and wharfage charges	$99.50
Carriage, London to Hull, and local transport, Hull	133.25
Analyst's fees	20.25
Total	$259.00
Net proceeds	$1,964.00

From the above sum, the cost of the seed, freight charges on rail in the Federated Malay States and from Port Swettenham to London and cost of extraction of the oil have to be deducted.

No information was supplied as to the cost of extraction of the oil, but the remaining figures of cost are as follows:

Cost of collection of seed	$450
Freight charges and handling, Kuala Lumpur via Port Swettenham to London	$3,415

From the above figures it will be seen that the cost of freight on the seed was not covered by the amounts realized by the sale of the oil and meal, after deducting costs in England.

The freight charges, etc., on the three consignments, which were shipped on separate dates, varied from $6.83 to $9.37 per bag.

It is scarcely necessary to add that the freight charges are very high, owing to the abnormal conditions in 1916 and 1917, and that it would not be desirable from an economic standpoint, even in normal times, to ship seeds, husked or unhusked, from this country.

* From the Agricultural Bulletin of the Federated Malay States.

The whole seed was extracted by Messrs. Wray, Sanderson & Co., Ltd., seed-crushers of Hull, in chemical extraction plant. It was unfortunate that the seeds could not be decorticated first, and also that they had to be extracted, on account of conditions, by chemical solvent extraction instead of by hydraulic pressure mills.

The treatment of undecorticated seed involves the handling of nearly double the weight of material, since the seeds consist of about 40 per cent. of shell containing no oil; secondly, meal or cake from undecorticated seed containing a large proportion of the hard shell would be of very low value for feeding purposes for cattle or sheep; thirdly, extraction by chemical solvents, although it removes practically all the oil, probably renders the residual meal unfit for cattle feeding, on account of both its flavor and low percentage of oil. The method of extraction, however, shows the maximum oil-content of the whole seed obtainable under average commercial conditions, which compares favorably with analyses made in the laboratory.

It should be mentioned also that the price obtained for the oil, viz., $250 per ton (approx.) is an enhanced price, due to present conditions, and compares with $300 per ton, which was the price of linseed oil at the time.

Under pre-war conditions, linseed oil fetched about $150 per ton and Para rubber seed oil would probably fetch $100 to $125 per ton.

Report on the Oil

Apart from the criterion of the value of the oil, as indicated by the price realized, a sample was submitted also to a firm of paint manufacturers, who reported that the oil might be used to some extent as a substitute for linseed oil, but that it was more probable that it would only be used to mix with other oils, i. e., in the nature of an adulterant. The oil, as was known previously, is not equal in quality to linseed oil as a paint oil or for varnishes. This firm valued the oil for its own purpose at $100 per ton in normal times, compared with $150 per ton for linseed oil. It may, on the other hand, prove more useful than linseed oil, which is said often to dry too quickly in hot climates, but this remains to be proved by actual experience.

The oil would probably not have any special value for other purposes, since for soap-making, etc., other fats and oils are available.

Results of Analyses

The analytical results obtained on the sample were as follows: (The figures for linseed oil and for previous samples of rubber seed oil are given for comparison.)

	Rubber seed oil (present sample).	Rubber seed oil (previous sample).	Linseed oil.
Specific gravity at 15.5° C.	0.9245	0.925	0.932-0937
Jean's refractive index at 22° C.	+ 24	.....	.....
Zeiss refractive index at 40° C.	+ 62	.....	72-74
Zeiss refractive index at 25° C.	+ 75	.....	.....
Wij's iodine value	139.3	128.5-143.3	175-200
Saponification value	192.5	188.5-192.1	189-194
Free fatty acids (as oleic acid (%).	16.9	5.3-20.5	0.0-5.0
Drying test	Poor	.....	Good

The high acid value of the oil from the present consignment of seed is probably due to deterioration during transport.

The oil was also dark in color, due probably to coloring matter extracted by the solvent from the shell. The remarks on the unsatisfactory character of the oil from this consignment of seed for paints and varnishes are no doubt due largely to its high content of free fatty acids, since when mixed with white lead it would produce a pasty paint, which would not spread well.

Rubber Seed Meal or Cake

The residue from the extraction by solvents may be described as a meal rather than an oil cake, and was stated to have been sold for the purpose of mixing as an ingredient of a compound feeding cake.

The analysis of the meal gave the following results:

	Per Cent.
Moisture	8.24
Oil	4.48
Proteins (containing 2.8% nitrogen)	17.50
Carbohydrates	32.29
Woody fibre	34.86
Mineral ash (silica 0.25%)	2.63
Food unit value	87.24

The large percentage of woody fibre is accounted for by the husk or shell and detracts considerably from the value of the product as a feeding material. It was not, however, possible to carry out any feeding experiments under the conditions prevailing.

The following is an analysis of meal from the kernel only, with the oil reduced to about the same figure:

	Per Cent.
Moisture	12.50
Oil	4.00
Proteins	33.25
Carbohydrates	39.75
Woody fibre	4 20
Mineral ash	6.30
Food unit value	132.87

The low, woody fibre content of the above meal compared with that of meal from the undecorticated seed may be noted.

The following calculated analyses for oil cakes from undecorticated and decorticated seeds, obtained by expressing the seed in hydraulic presses, are of interest. The oil-content of the cake from the decorticated seed is assumed to be 13 per cent, but a smaller quantity of oil would remain in the cakes by twice pressing. For comparison, previous actual analyses are given, together with an analysis of linseed cake:

	(1) Cake from undecorticated seed.	(2) Cake from decorticated seed.	Previous analysis.	Linseed cake.
	%	%	%	%
Moisture	12.00	11.00	8.75	11.06
Oil	8.00	13.00	8.71	9.50
Proteins	18.37	33.25	30.19	29.05
Carbohydrates	24.93	32.25	41.71	35.54
Woody fibre	32.00	4.20	5.01	9.10
Mineral ash	4.70	6.30	5.60	5.20
Food unit value	90.85	147.87	139.00	133.00

Messrs. Rose, Downs and Thompson have also had the meal examined from the point of view of its use as an artificial fertilizer.

The figures obtained are as follows:

Nitrogen	2.80	(= Ammonia 3.00%)
Phosphate of potash	1.00	

At the Government rates ruling at the time—viz., 17/6 per unit, the product was worth $13 per ton, which is very low and much less than its valuation as a feeding material.

General Conclusions

Messrs. Rose, Downs and Thompson point out that by chemical solvent extraction there would be no difficulty in reducing the oil-content of the residual meal, if desirable, to 1.5—2 per cent.

If the seed were expressed in hydraulic mills, they state that there would be no advantage in cold pressing first, in order to obtain a paler oil, followed by hot pressing to get the maximum amount of oil. Two pressings of heated seed, if necessary and economical, would be preferable.

In the consignment sent, the whole seed contained about 45 per cent of shell to 55 per cent of kernel. If the shell were removed before expression it could be used as fuel, or possibly as a manure, although its value is not great for this purpose.

Messrs. Rose, Downs and Thompson also point out, with regard to the problem of machinery for expressing oil, that it would not be economical to run a plant for say about three months in each year, and also that it is desirable to run such plant day and night, and not during the day only, stopping, say, at week-ends only. The writer has continually emphasized this point in discussing the running of oil machinery in this country.

Further, it is not desirable to use such plants for more than one kind of oil seed, as better results can be obtained by working continually on one type of seed. This means that the problem of storing seed should be considered, with the object of keeping the plant running throughout as long a period during each year as possible.

Decortication of the seed, prior to expression, is recommended, as has been recommended by the writer in this country, primarily on account of the fact that the shell contain no oil, and since they constitute over 40 per cent of the seed, nearly double the quantity of decorticated seed can be treated in any given period. Further, the residual cake is of more value as a feeding material.

Machinery

The following details with regard to machinery required are of interest.

Hydraulic Plant.—Capacity 1.34 tons of undecorticated seed per hour or 1 ton of decorticated seed per hour equivalent to 7,200 tons of decorticated seed per year of 300 days of 24 hours per day. Plant supplied to decorticate the seed and press twice, working continuously.

The plant includes:

(1) Two decorticators;
(2) One set of crushing rolls of 5 rolls, 4 ft. long by 16 in. diameter;
(3) Two hydraulic "Premier" (*i.e.*, cage) presses, each with kettle;
(4) One cake breaker;
(5) One set Anglo-American rolls for re-grinding cake from cake breaker;
(6) One kettle for Anglo-American presses;
(7) One cake-moulding machine;
(8) Four Anglo-American (*i.e.*, open) presses;
(9) One set edge-stones;
(10) Cake-paring machine.

Necessary pumps, elevators, conveyors, tanks, accumulators, pipes and fittings, press mats and cloths and driving gear, exclusive of belts. Engine and boiler not included.

Pre-war price (excluding freight by sea)	$28,900
Estimated present cost	57,800

Chemical Extraction Plant.—Capacity 2¼ tons of undecorticated seed or 1¼ tons of decorticated seed per hour or 9,000 tons of decorticated seed per year of 300 days of 24 hours per day.

(1) Decorticating machinery;
(2) Reducing and grinding plant;
(3) Extraction plant—standard unit of four extractors;
(4) Meal-drying, cooling and bagging plant.

All necessary conveyors, elevators, connecting pipes and fittings and driving gear, except belts. Excluding boiler and engine.

Pre-war price	$29,500
Estimated present cost	59,000

The area under rubber cultivation in Malaya is, approximately, 1½ million acres, of which 1 million may be taken as European-owned or managed estates.

The yield of seed may be taken at about 400 per tree and assuming 90 trees per acre, the yield per acre would amount to 306 lb. (1,000 seeds = 8.5 lb.)

This gives a total yield of 130,000 tons of seed per annum, which, on a 20 per cent oil basis, represents 26,000 tons of oil.

From an economic point of view it would be preferable to express or extract decorticated seed. The quantity of decorticated seed, on the basis of 55 per cent kernel, would amount to 71,500 tons, which could be taken as yielding by expression 36 per cent of oil or as above 26,000 tons, approximately.

National Exposition of Chemical Industries

All Records Are Broken Both in Attendance and Number of Exhibits of Interest to the Rubber and Chemical Industries

ONE OF THE INTERESTING EXHIBITS

Record-breaking attendance characterized the fifth National Exposition of Chemical Industries which was held in the Coliseum and First Regiment Armory, Chicago, during the week of September 22-27. The exposition was regarded as the most comprehensive display of chemical products ever held and was epoch-making in every way. Evidence of the strides made by this country in the realm of chemistry were attested to by the machinery, apparatus and products shown in the 350 exhibits.

One of the interesting exhibits was that of the Chemical Warfare Service. Attention of the public was drawn to this booth by the sounding of horns and bells such as were used in the trenches to announce a gas attack. The display included gas and smoke shells, showing the method of manufacture as well as an assortment of gas masks, of various types, in the different stages of construction. Practical demonstrations of the masks in actual usage were given in a glass-enclosed booth by enlisted men who were attached to the exhibit. Major General Leonard Wood, Col. Howe, his Chief of Staff, and Col. A. O. Seaman, from General March's office in Washington were in attendance.

Another exhibit of more than passing interest demonstrated the fastness and general excellence of American dyes as compared with the German product. The fabrics shown were put through exceptionally rigid tests, with the result that the fastness of American colors was shown to equal that of the German in every particular.

In addition to the exhibits a number of mining and chemical organizations held meetings throughout the week. Among these were the American Electrochemical Society, American Ceramic Society, American Institute of Mining and Metallurgical Engineers and the Technical Association of the Pulp and Paper Industry. Banquets and trips to places of interest served to supplement the business meetings and were enjoyed by all.

The rubber industry was well represented among the exhibits, fully ten percent of which were identified with rubber in one way or another. Manufacturers of dryers, chemicals, pigments, resisting paints, recording instruments and rubber machinery of various kinds were on hand with exhibits. Among them were the following:

The Taylor Instrument Companies, of Rochester, N. Y., had an interesting exhibit which included a wide range of instruments for the measurement of temperature. A complete line of the following instruments was shown: Indicating and recording thermometers, indicating and recording pyrometers, mechanically-operated temperature and pressure controllers, combined temperature and time controls, thermo-electric high range control for electric furnaces, engraved stem thermometers and hydrometers for laboratory and industrial use, U gauges, hygrometers, engine room barometers, mercury column vacuum gauges and absolute pressure gauges. The following representatives of the Taylor Instrument Companies attended the exposition: James Ely, H. Pagensteeher, S. Amdursky, F. Rinder, J. A. Sutherland, G. L. Rogers, E. A. Taylor, R. C. Schwarz, G. Heyss, A. Lemke and E. M. Levy.

The New Jersey Zinc Company exhibited specimens of automobile tires, hot water bottles and other rubber goods and explained the functions of zinc oxide in giving these articles resiliency and durability. A "flow sheet" which showed the various steps through which zinc is developed from the ore to the finished commodity provoked favorable comment.

There were also on display samples of the various products manufactured by the company. These included the different grades of lead-free zinc oxide and lithopone which are so extensively consumed in the rubber industry. Literature describing the uses for which zinc products are required was also shown. These included booklets entitled "Chemicals," "Pigments," "Metals," "Rolled Zinc" and "Zinc Dust" which had been especially prepared for the use of those who visited the exhibit.

The exhibit of the Solvay Process Company and Semet-Solvay Company was in a neutral-colored Pompeiian setting with allegorical posters representing the use of alkali in the glass industry, ammonium sulphate and potassium salts in the fertilizer industry, and a map of the United States showing the location of the plants of the two companies and their subsidiaries in the background. Directly in front of these, on pedestals to match the setting, were displayed the various products of the companies in especially designed, etched glass jars. At the front of the booth were three models representing industries in which the companies' products are used—a model of a cotton boiling kier illustrating the use of alkali in the bleaching of cotton; a model of a dairy farm illustrating the various products of the firms in agriculture; and a model of a blast furnace illustrating the use of coke.

The Buffalo Foundry and Machine Co., Buffalo, N. Y., ha[d]

an extensive exhibit which occupied practically the entire space at the head of the main hall. The display included evaporators, chemical apparatus, vacuum dryers, dry vacuum pumps, condensers, caustic pots, autoclaves, etc. The caustic pot shown was one of the largest sizes, being 10 feet in diameter, weighing approximately 26,000 pounds and having a holding capacity of 2,500 gallons. An apparatus which proved of considerable interest to visitors was the Hough Nitrator. This was kept in almost constant operation in order to show its mechanical features. There was also in operation a vacuum drum dryer, converting a liquid substance into a dry powder.

Eimer and Amend

The display of Eimer and Amend, New York, was primarily a manufacturer's exhibit. With the exception of a few items of English manufacture it was entirely American in nature and more than 85 per cent. of the apparatus shown was manufactured or the manufacture was controlled by Eimer and Amend. Among the pieces of apparatus shown were the following: a MacMichael viscosimeter, a Juerst ebulliometer, the Kimley electro-analysis apparatus, the Doolittle viscosimeter, Pensky-Martin flask point apparatus, Young's gravitometer for solids, Wysor grinding and polishing machine, Freas ovens, multiple unit Hevi-Duti furnaces and Barnstead stills. Five of the firm's representatives including C. G. Amend were in attendance at the exhibit.

The display of the Foote Mineral Company, Philadelphia, was of an exceedingly interesting nature and featured many unusual ores and rare elements. Among the products displayed were zirkite, zirkite blocks and refractories. Zirkite is composed essentially of zirconium oxide, one of the most refractory substances known. Zirkite blocks are used by metal refiners and chemical manufacturers who find ordinary refractory bodies unsuitable. Zirkonalba was another refractory body on exhibition.

A large display of selenium, sodium selenite and sodium selenide was also noted. Selenium is claimed to impart very beneficial properties to certain grades of rubber and it is proposed to use it in the rubber industry. Phosphotungstic acid, ammonium metavanadate, uranium nitrate and manganese dioxide were also shown. Among the very rare elements and compounds exhibited were the following: cerium metal, molybdenum metal, palladium, rhodium, ruthenium, iridium, thallium, yttrium nitrate, didmium, didymium nitrate, thorium oxide, samarium sulfate, gadolinium sulfate, praseodymium nitrate and caesium nitrate. The exhibit was in charge of H. C. Meyer, vice-president and W. A. Koenig, chemical engineer.

C. J. Tagliabue Manufacturing Co.

The display of the C. J. Tagliabue Manufacturing Co., Brooklyn, N. Y., included liquid level and condensate controllers, self-operating and automatic temperature and pressure controllers, an automatic combination time and temperature controller, the "Tag" absolute pressure controller, a traveling recorder, box type open cistern, mercurial and absolute pressure gauges, hydrometers, oil testing instruments and indicating and recording thermometers. W. W. White was in charge assisted by D. M. Morgan and V. Wichum.

The F. J. Stokes Machine Company, Philadelphia, featured rotary and laboratory vacuum dryers, automatic water stills, powder filling machines, copper vacuum stills, vertical surface condensers and rotary tablet machines, producing naphthalene balls. Specimens of the foregoing were shown in operation, while an exhibit of compressed tablets was also shown. Lawrence H. Bailey and Charles F. Coleman were in charge.

The General Electric Company, Schenectady, N. Y., featured a model of a precipitation outfit, illustrating a Cotrell process of precipitation. Other apparatus exhibited consisted of two types of motors, a 100,000-volt Kenotrom with a filament heating transformer in operation, and an exhibit board showing welded terminals for flexible cables used in blast furnaces. Chester T. McLoughlin was in charge and he was assisted by Raymond Barclay and several representatives from the Chicago office of the company.

The J. P. Devine Company, Buffalo, N. Y., featured an exhibit consisting of chemical kettles, autoclaves and carbonators. Small drying chambers to demonstrate features of the large drying apparatus made by the firm were also on display as were two motor-driven pumps. J. P. Devine, president; C. P. Devine, vice-president, and George Galloway, engineer, were in attendance.

The Sherwin-Williams Co. occupied a large double booth and featured its products in an interesting fashion. The main feature of the exhibit was a long background the full length of the display built up in a step effect, each step holding a long row of bottles and jars containing the various dry colors and other materials of Sherwin-Williams manufacture all suitably labeled. These were shown to exceptional advantage by means of extra lighting. The display contained full lines of intermediates (C. P. materials), dyes (C. P. materials), mines and mills, lithopone plant, white lead plant, acetic acid plant, coal-tar and insecticide plants, chrome plant, printing ink colors, and paint colors.

General Chemical Company

The General Chemical Company, New York, exhibited heavy acids and chemicals, C. P. acids and reagent chemicals, insecticides and Ryzon Baking Powder. Demonstrations of the diversified manufactures for which the firm's products are used were given by showing some of the finished products, such as oils, textiles, paper, tin plate, brass, etc. The use of sulphate of alumina as a water purifier was also shown by exhibiting a sample of natural Ohio River water, together with a sample of the same clarified water after it had been treated with sulphate of alumina. The exhibit was in charge of E. W. Carpenter, of the Chicago office, and N. Peterkin and J. M. Keating, of the New York office.

The exhibit of the Carrier Engineering Corporation, New York, comprised a complete standard Carrier humidifier in actual operation, provided with glass inspection doors on all sides and equipped with Carrier dewpoint control for humidity, and Carrier hygrostatic volume control for temperature. The exhibit also included a few of the many products made in plants where manufactured weather is standardizing manufacturing routine and holding production efficiency always at a maximum.

Werner and Pfleiderer Co., of Saginaw, Mich., had an exhibit consisting of laboratory size grinding and mixing machines. The display was in charge of S. D. Gridley and J. C. Caley.

The American Hard Rubber Company, New York, featured a small piping system in operation, hard rubber being the only material coming in contact with the liquid throughout the system. A hard rubber reciprocating pump and various small articles used in the chemical industries were displayed. A. M. Ackerman was in charge and was assisted by E. D. Madden.

The Foxboro Company, Inc., Foxboro, Mass., showed a complete line of indicating and recording instruments for temperature, pressure, time, motion and flow. A. F. Mundy was in charge and was assisted by F. W. Carret and Messrs. Neely and Roessner.

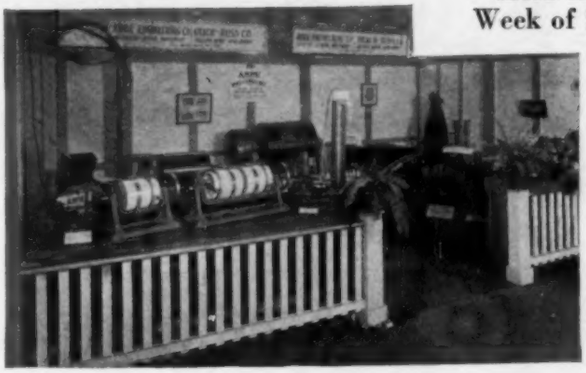
The Widney Company

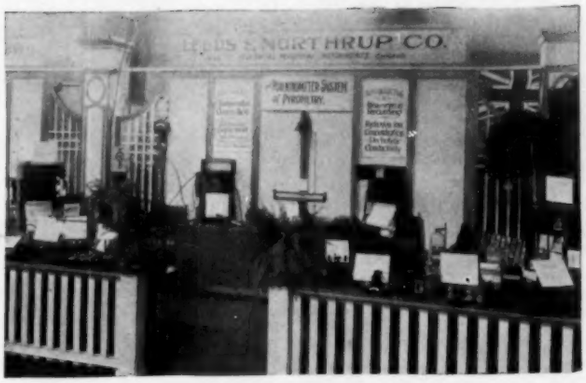
The Widney Co., Chicago, showed the "Widneyometer," an instrument for determining a characteristic of material, embodying the results of its investigations.

The Philadelphia Textile Machinery Co., Philadelphia, showed a miniature Proctor 4 truck dryer, a miniature Proctor 3 conveyer dryer, 70 samples of materials dried in its machines and 24 transparencies of machines of various types. E. B. Ayres, W. R. Murray, Joseph Tiers, Jr., W. J. Dudley and Mrs. A. R. Reiter were in attendance.

Some Exhibits at the National Exposition of Chemical Industries

Held in Chicago
Week of Sept. 22-27





The Brown Instrument Co., Philadelphia, showed a complete line of recording instruments used in the chemical industry. R. P. Brown, G. W. Keller, J. W. Lazear, F. C. Mahoney, R. E. Soules, S. W. Thal and Richard Guest were in charge.

The J. H. Day Company, Cincinnati, Ohio, exhibited special mixing and grinding machines of all types. The company has recently perfected several machines for the making of chocolate, rubber and explosives, which have not been put upon the market since the United States entered the war. F. M. Dudley and R. F. Cone were in charge of the exhibit.

The W. W. Sly Manufacturing Co., Cleveland, Ohio, exhibited a complete dust arrester installation in operation which collected even the finest dust. P. W. Graue was in charge.

in charge of the large and interesting exhibit of apparatus.

The Precision Instrument Co., Detroit, featured the new "5 in 1" draft gauge, a new design specific gravity recorder, a new design recording gas calorimeter and a new design C-2 recorder. Charles E. Conway was in charge and was assisted by a representative from the Claud S. Gordon Co. handling Precision instruments in the Chicago territory.

The Gordon Dryer Corporation, New York, exhibited the "AA" size dryer, designed for small batch production, in operation. The "D" dryer, containing 500 square feet of effective drying surface, was shown in operation. Nathan Owitz, R. R. James, H. D. Harvey and R. B. Hewitt were in charge.

The National Aniline and Chemical Co., Inc., New York,

EXHIBIT OF GENERAL CHEMICAL COMPANY

EXHIBIT OF J. H. DAY COMPANY

The Hunter Dry Kiln Co., Indianapolis, Ind., showed a model of the company's equipment, comprising automatically controlled humidity dryers and samples of various materials dried by its system. Harry Hunter, O. Ragsdale and A. B. Stoney were in charge.

A. Daigger and Co., Chicago, displayed numerous items of standard lines of equipment, a number of special chemicals and articles of equipment developed by the company to meet recent necessities. R. J. Quinn was in charge and was assisted by Charles Rascher and R. I. Wishnick.

W. L. Fleischer and Co., Inc., New York, demonstrated a model of its air conditioning apparatus, and a model of its dryers for mineral, vegetable and animal products. W. L. Fleischer, A. W. Lissauer, R. E. Keyes and D. Connolly were

displayed its coal tar dyestuffs, intermediates and good colors. More than 200 distinct dyes were shown. These were all of American manufacture, the claim being made that, type for type, they are as good as the German products. Many of the colors in the exhibit were introduced during the last year. The intermediates formed the central feature of the exhibit, which also included a collection of fabrics on which the dyes had been used. A complete line of food colors of primary and secondary shades was also shown.

Among other concerns identified with the rubber industry were the Philadelphia Drying Machine Co., Inc., Philadelphia; Precision Therm. and Instrument Co., Philadelphia, and the Westinghouse Electric and Manufacturing Co. of East Pittsburg, Pa.

Waste and Salvage in Rubber Factories

By S. F. Kessner

Formerly of By-Products Department of the Goodyear Tire and Rubber Company

Waste, in a sense, is either voluntary or permissible. Voluntary waste is by act of commssion or by virtue of doing anything which may alter the nature of the result desired. Permissible waste is by act of omission such as allowing it to be done.

Voluntary co-operation among your employes is desired. What is needed is some one to instruct, meet, discuss and educate your help to assist you in eliminating waste in the different departments.

An example of waste frequently occurs when the power house has one of its batteries shut down in order that it may be relined with new fire brick. What is done with the old, rejected brick? Frequently it is thrown into a dump. As a matter of fact it can be saved and used as a filler in the construction of foundations or walls. If not needed for purposes of this kind it may be sold to brick yards, where it is ground and used in the manufacture of new brick. Incidentally it makes better brick than does entirely new material, as it has been burnt and baked in a most thorough manner.

Another item is boiler flues which have been removed from the boilers and which have been replaced by new ones. I have frequently noticed flue pipes thrown into a scrap heap and

either sold for scrap or allowed to rust and decay. Why not cut them down to a standard size for smaller boilers and sell them to boiler makers? They are practically as good as new flues, and selling them frequently pays for installation of new ones. Pipes of all sizes, either for conveying water or steam, are replaced by new pipes when once the threads have become rusted off from use in the ground. A considerable saving could be made by rethreading the old pipe after having cut off the old thread. By doing this but little new pipe is needed.

Is the wastage of water in your plant large, and what is the cause of it? Frequently considerable wastage is brought about by having the faucets open and allowing the water to run in order to secure a cool drink. The installation of a cooling plant would result in stopping a large amount of waste due to the above reason.

With regard to electric lights, are the meters watched and checked in order to note what line is using more light than is necessary, especially during the daytime? In order to eliminate wastage of this type there should be a strict enforcement of the rule for operators to turn out lights when they leave their benches at any time. In addition to this all lights should be turned off during the noon hour.

Cinders seem an insignificant item, but they can be used as a filler in your own factory yard, or they may be sold for use in sidewalk foundations, etc.

Cotton waste is used for many purposes throughout a large plant and is expensive. What becomes of that which has been used when it is full of dirt and oil? Is it thrown away and lost or is it saved? Boxes should be conveniently placed into which all cotton waste should be thrown after it has reached a stage where it can no longer be used. These boxes should be removed whenever full and their contents washed clean, dried and used again.

Considerable wastage occurs in the compound-room or mixing room, where the different ingredients for the rubber are mixed. Ingredients falling upon the floor are frequently lost, but this can be remedied by having the floors of a construction which will permit the regaining of articles which have fallen upon them without having to resort to a salvage process.

Then there are paper bags which are frequently cut open and thrown away. This should be stopped and they should be carefully opened, well shaken out, then placed flat, stacked into piles and re-sold. This also applies to burlaps, barrels, boxes or any other container.

In the mill room is where discipline is needed and careful watching should prevent waste of oil, soapstone and rubber. Frequently rubber gets upon the floor, and there accumulates oil or has small pieces of soapstone ground into it. In this condition it is sent to the calenders for finishing, and then trouble begins. Spots of this kind occasioned by dirt or oil must be cut out and the entire piece returned to the washers and milled over again. Extra time and labor of this nature can be saved by having inspectors everlastingly on the job to guard against such substances on the floor as well as carelessness in handling.

What is done with old paper which is brought in with lunches and with other packages? Instead of being thrown away this can be saved and sorted into various grades, each of which brings a certain price which is well worth the trouble. Old clothes, shoes and rags bring enough when sold to pay for the trouble of collecting. Milk bottles can also be turned into cash, so don't break them. Old lumber always comes in handy for some use and should be piled up neatly so that it will ventilate. Save every and any article, and make it a rule to use all material of this kind you possibly can in your factory.

If your factory cannot use salvaged goods there are others who can and be glad to have such of it as would suit their needs. There is little trouble in finding a buyer for almost everything salvaged around a rubber factory. Just get on the job and see what can be done with those things which are being thrown away and which originally cost you considerable money.

Have you ever considered what the eighth of an inch of rubber or fabric pieces saved from the edge of a piece would amount to in a year? There is bound to be some waste about a plant, but with the co-operation of your employes you can reduce it to a minimum.

The tire room is an interesting place in which to watch for wastage in both gum and fabric. Notice the amount of material which falls to the floor as the result of carelessness. Have your spider stands been equipped with sheet iron boxes so that all waste fabric is thrown into a box as it is cut off? The different gum compounds should be kept separate, for mixed gums cannot be used in a new batch.

Tire inspectors should be thoroughly on the job so that they will be able to instruct the tire builders in the necessity of keeping gums separate and of placing all cut-offs into the proper boxes. Even when a mistake is made and there is an over-cut, the men should feel that it is necessary to save the gum or fabric by putting it in its proper place.

The other departments—the calender room, the belt room, the mechanical goods department—all have their wastes, but efficiency will help to eliminate a number of them and will result in the saving of material, time and money. In another article a number of other departments will be considered and details will be given of salvage and its by-products.

(To Be Continued)

Cobalt as an Accelerator

Various substances are being continually tried as accelerators of vulcanization and the following discussion of various salts of cobalt as accelerators adds other ingredients to the already long list. André Dubosc has made extended investigations of the properties of cobalt salts their method of preparation and uses. He presents here an interesting analysis of the subject. This discussion has been translated from the July, 1919, issue of "Le Caoutchouc et la Gutta Percha" of which Mr. Dubosc is Editor.

The hydrate of cobaltous oxide, $Co(OH)_2$, is prepared by treating a solution of a salt of cobalt, as the sulfate or the nitrate, with an excess of soda or potash, the reaction being protected from the air. It is precipitated at first as a blue salt which, in the presence of an excess of the base, is transformed slowly to the rose-colored hydrate of cobaltous oxide.

. This hydrate is separated by filtration being protected from the air because it forms the carbonate very easily. This is then dissolved in a mixture of equal parts of 22° ammonia and carbon disulfide; a large excess of ammonia is then added and the liquid placed in a closed vessel protected from the light and the reaction allowed to proceed.

The hexamethylene sulfo-carbonate of cobalt crystallizes soon in black rhombohedrons, which are slightly soluble in water. These are separated from the mother-liquor by filtration and dried in a desiccator over sulfuric acid.

Cobaltamines

Cobalt trinitrotriamine. This compond has the following formula: $(NO_2)_3$ $Co(NH_3)_3$, and contains six atoms of nitrogen. Its oxygen is transformed into sulfurous acid and the nine atoms of hydrogen of its ammonia furnish hydrosulfic acid in abundance. It should therefore act as a very good vulcanization accelerator.

It is prepared by dissolving cobalt carbonate in hydrochloric acid until the neutralization point is reached.

This solution is poured into a mixture of ammonium chloride, sodium nitrite, and liquid ammonia (NH_4OH).

The cobalt is then oxidized by means of a current of warm air which is passed into the solution for several hours, which causes the solution to be evaporated to one-half its volume. It is deposited as a yellow sediment mixed with brown crystals, which are washed with cold water until all traces of chlorine are removed.

After filtering at the pump (Büchner Funnel) the precipitate is redissolved in boiling water slightly acidified with acetic acid. The solution is cooled to 0° C., when cobalt trinitrotriamine will crystallize in fine crystals which are dried at 80° C.

Use of Cobaltamines

Cobalt has the property of combining with ammonia to produce salts which are called cobaltamines, and which have the property of combining with several molecules of ammonia for each molecule of cobalt. These products decompose at a temperature slightly above 100° C., forming double salts, which give up a large part of the ammonia which they contain, therefore they have the ability to act as accelerators, since there is generated in the presence of sulfur and CS_2, hydrosulfuric acid and sulfocyanic acid.

The addition of carbon disulfide when they are being used is absolutely necessary, for they do not contain carbon which is necessary for the transformation of nitrogen into sulfocyanic acid. The cobaltamines, which have been studied by Joergensen, Gibbs and Werner, are very numerous and have the following characteristics. Their molecules are formed in two distinct parts:

1. Formed by cobalt combined with several molecules of ammonia which can be partly substituted, not acted on by ordinary reagents.

2. Formed by normal elements such as chlorine, carbonic acid, sulfuric acid.

The salts which are most interesting from the accelerator standpoint are the cobalthexamines or lutecobaltques salts, which contain six molecules of ammonia for each atom of cobalt. Among the latter is the carbonate of cobalthexamine which has the formula:

$$CoNH_2CO_3$$
$$CoNH_2 — NH_2 — NH_2 — NH_2CO_3$$
$$CoNH_2CO_3$$

Above 100° this salt decomposes and gives the carbonate of cobalt, ammonium carbonate and four molecules of free ammonia. At 70° the ammonium carbonate is dissociated and the substance then gives up six molecules of ammonia.

The reaction should take place more easily if zinc oxide is added to the rubber on which the cobalthexamine is to act as an accelerator, for then the zinc oxide absorbs the free carbonic acid liberated by the ammonium carbonate and forms zinc carbonate. The liberated ammonia in the presence of carbon bisuphide gives sulfocyanic acid and hydrogen sulphide.

$$6NH_3 + 6CS_2 = 6(NHCS) + 6H_2S$$

The general equation of the reaction would be:

$$Co(NH_3)_6(CO_3)_3 + 2(ZnO) + 6CS_2 =$$
$$CoCo_3 + 2(ZnCO_3) + 6(NHSC) + 6H_2S$$

In this reaction there are produced two molecules of sulfocyanic acid and two molecules of hydrogen sulfide more than in the reaction of hexamethylene tetramine.

The cobaltamines have some salts which contain still more ammonia than the cobalthexamines. They are the poly-cobaltamines or anhydroxypentamines of cobalt in which two atoms of cobalt are combined with ten molecules of ammonia and the diazotrimnidodecamine tetra cobalt which for each four atoms of cobalt contains eleven molecules of ammonia. The formulas are: Carbonate of anhydropentamine cobalt; $O_2Co_2(NH_3)_{10}(CO_3)_5$ Carbonate of diazotrimnidodecamine tetra-cobalt; $O_4N.H_2Co_4(NH_3)_{10}(CO_3)_5$. The preparation of these salts is extremely difficult and can hardly be undertaken commercially. The hexamine sulfo carbonate of cobalt is another cobaltamine of much interest: $C_2S_7Co_2(NH_3)_6$. This cobaltamine would be a good accelerator, for it decomposes readily when heated, giving off amomnia, cobalt sulfide (Co_2S_3), sulfocyanic acid and hydrogen sulfide, according to the following equation:

$$C_2S_7Co_2(NH_3)6 + Co_2S_3 = 2(CNHS) + 2(H_2S) + 4(NH_3)$$

If this substance reacts on rubber in the presence of carbon bisulfide, it then becomes a powerful catalyzer. We then have:

$$C_2S_7Co_2(NH_3)6 + 4CS_2 = Co_2S_3 + Co(CNHS) + 6H_2S$$

This substance is easily prepared.

How to Obtain an Export Trade

Valuable advice on methods to be pursued in seeking to develop foreign trade is given by David L. Brown, manager of export advertising of the Goodyear Tire and Rubber Co. of Akron, Ohio, in a recent interview. "The first step to be taken is to study the governmental pamphlets and consular reports," Mr. Brown says, "and special articles published in the export journals; both in current issues and old files. Consult with men in non-competitive businesses who will be very likely to provide information based on personal experiences, concerning general conditions of fields to be entered and where business has been conducted successfully in the past by parties interviewed. Send representatives at once to the contemplated fields in order that they may become personally familiar with conditions and report freely to the factory.

"These representatives, Mr. Brown continued, must make friends to do future business with and make preliminary or tentative soundings as to suitable agencies or distributors. There must be additional cultivation of markets by advertising and publicity-beginning of the campaign to create good will. Familiarize probable consumers with the Trade Mark and establish the quality or other features of goods later to be sold. Map out and develop an intensive advertising campaign. Figure this as an investment; don't try to base it on probable returns.

"If nothing else, arrange to run in the local publications a picture of the product and the nameplate or Trade Mark of the company with a suitable background to familiarize the public or technical consumers with the products—and avoid too lengthy pieces of copy or elaborate treatises. Above all, avoid exaggeration and uninteresting pictures of factory buildings. Select publications carefully, using only those known to be favorable to American interests and that have established themselves as responsible media.

Building up an export organization at the factory headquarters on a substantial, sensible and effective basis. Go to it in a business-like way. Begin to train men for special work in individual fields. Establish classes in the various languages if there are enough people designated for the export work. Establish sales schools or classes for specialized instruction in export activities.

"To insure sufficient production in plants to take care of orders when they are received, formulate a plan. Definitely decide to consider export trade as something vital and necessary, and important enough to revise certain methods of production, quantity, and even kind, and arrange for sure and steady supply of demand.

"Establish a separate packing and shipping department in order to make sure that this very important part of the work is carried on properly. There are volumes of information available on export packing and shipping, and almost everything they contain is the truth. The subject is very different from the domestic one."

News From the Rubber Metropolis

New Firestone Mechanical Building—Biltwell Increases Capitalization—Fiftieth Anniversary of Rubber in Akron—Vermillion Leaves Firestone—Mason Announces Unlimited Mileage —East Palestine Rubber Elects

New Mechanical Building for Firestone

Ground has been broken for Firestone's new mechanical building immediately south of Plant Two. The announcement that its erection would soon be commenced was first made by President H. S. Firestone at the stockholders' meeting, held in the Clubhouse on September 4. The frontage on South Main Street is 325 feet; the depth will be 315 feet; and an expenditure of at least $400,000 is involved. About five hundred men will be housed in the new plant, which will accommodate the electrical, machine, pipe, carpenter, pattern and tin shops.

In the designing of this new structure, plants through the east and middle west were studied and President H. S. Firestone, J. W. Thomas, works manager, and C. A. Myers, superintendent of engineering, finally decided on a design which conforms strictly to the Firestone ideal.

The structure is to be divided into three parts. At the front is a section three stories in height, twenty-five feet deep, and containing offices, locker rooms, wash rooms, shower baths, lunch room and cafeteria. Just behind are two bays, each forty-five feet deep, having headroom under the trusses of thirty feet, and equipped with two ten-ton traveling electric cranes.

The remainder of the buildings consists of eight bays, each twenty-five feet wide, with a height of fifteen feet under the trusses. At the southwest corner is a forge shop whose dimensions are fifty by a hundred feet, while along the south side of the main building is a storage and loading platform eighty feet long.

The roof is of what is known as sawtooth construction with a northern exposure that does away with shadows. Ample ventilation, both natural and artificial, is supplied, since part of the heating system can be used to give plenty of cool air, and can be operated in the summer as a ventilating system to keep the air in constant circulation.

Approximately eighty per cent. of the area of the walls is of glass, and the side windows can be operated singly, so that each man can arrange the ventilation to suit himself and be able to work in entire comfort. The floor will be of wooden block laid on reinforced concrete, a combination which, besides being best adapted to the requirements of a building intended for mechanical purposes, is also easiest on the feet.

The equipment is to be in keeping with the modernness that is visible in every other respect. Consisting for the most part of individual motor driven units, the machinery can be operated as a whole or in part. In this manner, too, the unsightliness of belts and their attendant danger are also eliminated.

Biltwell Increases Capitalization

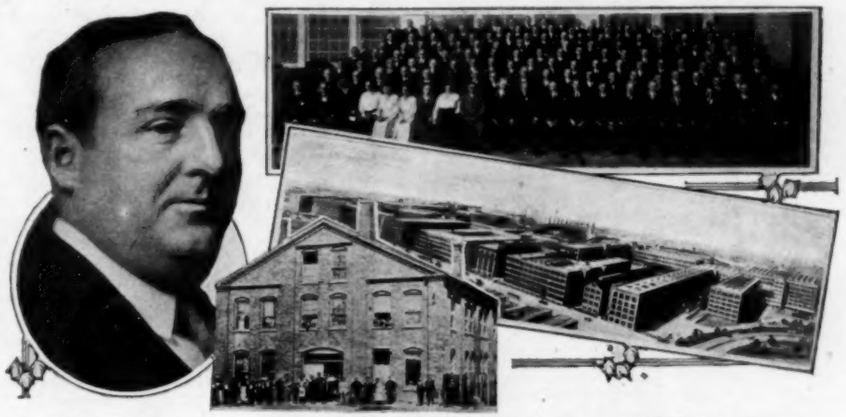
(Special Akron Correspondence)

The Biltwell Tire & Rubber Co., of Barberton, has been authorized by the Secretary of State to increase its capital from $1,500,000 to $2,350,000. The additional capital will be used to extend the business of this new company.

Fiftieth Anniversary of Rubber in Akron

(Special Akron Correspondence)

Fifty years ago the manufacture of rubber products was introduced into Akron by Dr. Benjamin F. Goodrich. At that time Akron was a small city of a few thousand inhabitants. To-day its population is near the 200,000 mark and mounting so rapidly that civic boosters claim it will be one of the three big cities of the state, Cleveland and Cincinnati being the other two, within the next five years. Dr. Goodrich with Harvey Tew and a few others, founded the B. F. Goodrich Company and capitalized it at $200,000. Operations were started in a small building along the Ohio canal. To-day the Goodrich Company employs 22,000 men and women and hundreds of acres of floor space are being utilized in the manufacture of rubber products.



B. F. Work, President

(Top) Old Goodrich Employees. (Middle) Present Goodrich Plant. (Bottom) Original Factory

---

Vermillion Leaves Firestone

E. C. Vermillion, head of Americanization work at the plant of the Firestone Tire and Rubber Company for nearly a year, leaves to assume charge of similar work for the city of Akron, taking the place of E. P. Wiles, who has gone to Cleveland.

Mr. Vermillion began to organize Americanization classes in January. The project had been started during the previous November, and with the advent of the new leader, an added impetus was given. He traveled through the plant interviewing and explaining. New students joined, and in a short time it was necessary to organize new groups and enlarge the teaching force.

When Firestone's Americanization school closed for the summer, over four hundred foreign born had taken advantage of the opportunity it had offered. Throughout the summer Mr. Vermillion was engaged on the housing problem.

The fall term had opened, and Mr. Vermillion was planning for a large attendance when the call to wider fields came. Under L. A. Gredys, who has been appointed as the new leader, a very successful year is looked for.

Mason Announces Unlimited Mileage

The Mason Tire & Rubber Company, of Kent, Ohio, has recently issued an interesting booklet entitled "The Mason Guarantee," which is descriptive of the guarantee issued by that firm to all purchasers of its tires.

This guarantee is not a guarantee for a specified number of miles but assures the buyer that the tires are perfect during their entire life, with no limitation placed on the time or length of service during which the firm's responsibility remains in effect. According to the booklet: "Every purchaser of a tire is entitled to the full life of that tire; he paid for that much, it was represented to him as a good tire and if defective should be adjusted on the basis of what it should have run on his car under the conditions that he drove and not the other fellow—in short every tire is bought to wear out. Why, therefore, should the purchaser be limited to a specific mileage guarantee." The guarantee carries with it a reward for the careful driver for the care he takes and is based on mileage satisfaction.

Building Permits Issued to Firestone

(Special Akron Correspondence)

Building permits totalling $415,000 have been issued to the Firestone Steel Products Company for the new plant the company is building south of the shops of the Firestone Tire & Rubber Company. The permits call for a factory building 860 by 250 feet, one story high, to cost $375,000; an office building to be two stories, 160 by 40 feet, to cost $30,000; and a garage to cost $10,000. Steel for the new buildings is ready for delivery and it is stated that construction will not be hindered in any way by the steel strike.

East Palestine Rubber Elects

At the adjourned annual meeting of the stockholders of the East Palestine Rubber Company held at the office of the Company at East Palestine, Ohio, on September 17, an entire new board of directors consisting of C. F. Adamson, J. F. Stoddard, J. H. Whittenberger, William G. Morris, C. F. Woods, S. B. McClure and P. H. Murphy, all East Palestine business men, was elected. The Board of Directors organized by the election of C. F. Adamson, president and treasurer; S. B. McClure, vice-president; J. F. Stoddard, secretary.

The company's new plant which has been standing idle the past two years will be put in immediate operation.

Goodyear Americanization Program

"Every foreign born workman speaking English and no man without his first papers by 1921." This is the aim of the Goodyear Tire & Rubber Company in its Americanization program. This company has long known and recognized that Americanization is one of the greatest factors in preventing industrial unrest, bolshevism, unemployment and misunderstandings between employer and employe. Great effort is being made to educate its alien workmen to understand our language, customs and living conditions—to show them that just so long as they neglect to learn our language, live in unclean surroundings and below the American standard of living, just so long will they fail to attain the respect of their American-born fellow workmen.

The instrumentality which the company is offering to these alien workers to perfect themselves is the Goodyear Factory School, which is more and more attaining the proportions of a university. An elaborate school program is being carried out in which aliens are taught to read, write and speak English.

These workmen are making an honest effort to learn the language of their adopted country and will become good citizens of the republic. Many who had formerly questioned the advantages of speaking our tongue have greatly advanced themselves in many ways.

At present sixty-one classes are receiving instruction each week. The entire course consists of 250 hours of class room work in three grades. The first grade teaches conversational English; the second, history and government, and third, the ideals of Americanization.

Advancement depends, of course, upon ability, for as soon as a man is sufficiently advanced he is transferred to the next higher class. Americanization work at Goodyear is by no means limited to factory schools. It embraces a department where the employee may secure expert legal advice without cost. A housing bureau provides for proper and suitable living conditions. A complaint department is available for ironing out misunderstandings. A suggestion committee provides rewards to workmen making valuable suggestions affecting policy and product.

Hospitals and free dispensaries with free attendance of doctors and nurses attend to physical ailments. A cafeteria furnishes meals at cost. A modern and thoroughly equipped gymnasium and an athletic field furnishes ample opportunity for following all athletic inclinations. If a man is sick or injured he is taken care of by the relief association. If dissatisfied with his work remedial investigation is made into conditions giving cause for the dissatisfaction.

The Goodyear Company can refer with pride to the broad scope of its Americanization work. Its success is evidenced by that intangible yet binding comradeship which has played so large a part in that institution's growth.

Ajax Announces New Plant Location

The Ajax Rubber Company, Inc., through its president, Horace de Lisser, has announced that its new factories will be located at Jackson, Mich. This decision was reached after the company had given careful consideration to the manufacturing advantages of several locations in the middle west.

The company recently purchased a tract of 110 acres of land in Jackson and contemplates using it for the prompt construction of large factories to cost about $2,500,000. The plants will be completely equipped with the most modern facilities necessary in the manufacture of tires. Every effort is being made to push the work through to completion without any unnecessary delay. The operation of this new plant will enable the company to practically double its present output.

The Chamber of Commerce of the city of Jackson have completed arrangements to provide six hundred new houses in Jackson and these will be reserved for the exclusive use of Ajax employees. Work on the houses will start at once and it is planned to have them ready for occupancy upon completion of the new plant.

The present factories of the Ajax Rubber Company are located at Trenton, N. J., from which shipments are now made to all parts of the country. When the Jackson plant is completed, the company will be in a position to take care of its rapidly increasing business in the middle west and far west from this point.

Firestone Reports World's Series

Full returns of the recent world's series between the Cincinnati and Chicago baseball teams were had at the plant of the Firestone Tire and Rubber Company during the week of the recent interleague unpleasantness. A score board was established in the yard of the plant and the score by innings was received from the city. Megaphone announcements of plays and innings were made from the second floor of the Labor Department building and the entire plant was kept informed of the progress of the games.

On October 2 the company provided amusement for the crowd gathered to watch the returns at the scoreboard of the "Beacon-Journal" in Akron. The space around the score board was decorated with blue and gold while a bower of autumn leaves and Firestone pennants was formed for "Norm" Weyand and his jazz orchestra.

Brighton Mills Plan Technical Courses

Technical courses for workers will shortly be inaugurated at the Brighton Mills, at Passaic and Allwood, N. J., and already an educational committee has been formed to supervise this work. The committee has in preparation a series of courses covering all lines of manufacturing work and the general sciences which are fundamental to the technical knowledge of manufacturing.

An entrance fee will be charged for each course, and those completing the course satisfactorily will not only have the fee returned but will become possessors of the textbook used. The apprentice work of boys desiring to learn the entire business will also come under the direction of the committee. Anyone wishing to learn the business on this basis will be required to work for a two months probation period. At the end of this time, if recommended by his foreman and one member of the committee and if qualified in rating test, he will be permitted to go ahead with the full course of instruction. Those working in this way will receive pay according to the job on which they are working rather than at a special apprentice rate.

A class in algebra has already been formed and is meeting every Tuesday and Thursday. Other classes will be started as soon as a desire for them is shown by members of the organization.

Akron Stock Prices

(Special Akron Correspondence.)

The recent industrial disturbances, of which the steel strike has received the most attention, have not affected the Akron rubber stock market to any great extent. In fact several of the leading stocks have shown consistent gains in the last week or so.

Goodyear common, after reaching a high mark of 385, has slipped back to 371 bid and is holding fairly steady at that quotation.

Goodrich common and Kelly-Springfield have mounted with other stocks listed on the New York exchange, the former being slightly over the 80 mark, while the latter has climbed over 140.

General Tire common, which is quoted every day and rarely offered for sale, has reached the 500 mark and indications are it will go higher.

A small sale of Star common was recently reported at 350¾. This is another stock which is seldom on the market.

All in all the stock market reflects the wonderful prosperity of the rubber industry. Following are the quotations for October 1:

	Bid.	Asked.
American Rub. & Tire	59	...
do pfd.	105	...
Amazon Rubber	...	130
Firestone	173	176
do pfd.	99½	100
General Tire	500	...
do pfd.	99½	...
B. F. Goodrich	81	83
do pfd.	104	104½
Goodyear	371	376
do 1st pfd	105¼	106
do 2nd. pfd.	107	107¾
India Rubber	210	215
Kelly-Springfield	140	143
Mason Tire	24½	...
do pfd.	...	87
Marathon com.	...	55
Miller Rubber	188	193
do 1st. pfd.	103¾	104¼
do 2nd. pfd.	104½	...
Mohawk	305	312
do pfd.	100	110
Portage Rubber	...	140
do pfd.	96	98
Republic Rubber	6½	7
do 1st. pfd.	...	96
do 2nd. pfd.	...	92
Rubber Products	...	141
Star Rubber	350	...
do pfd.	96	98½
Swinehart	87	90
do pfd.	89	...

Industrial Federation of Gillette

In order to secure cooperation between employers and employes by the promotion of "good will and a square deal" the Gillette Rubber Company has been instrumental in organizing what is termed as the Industrial Federation of the Gillette Rubber Company.

The furthering of justice, cooperation, economy, energy and service are given as the basic principles of the organization. Councils are organized in each department and from these councils representatives are chosen to act for them on the Factory Board. An executive board composed of one foreman, one superintendent, one supervising engineer, one vice-president and four representative (not foremen, etc.) receives reports, requests and recommendations from the Factory Board and acts upon them, following which they are submitted to the vice-president and general manager. Failing to reach an agreement the president is called upon to decide. The councils look after the general welfare of their members.

A pamphlet entitled "The Square Deal" containing sound advice is also placed in the hands of each new employe as he begins work with the company.

Activities of the Rubber Association

Revised Form of Manufacturer's Certificate Is Called for by New Treasury Department Decision—Through Export Bills of Lading—Material for Sale and Sought for Purchase

Federal Excise Tax—Revised Form of Manufacturer's Certificate Called for by Treasury Decision 2915 (Circular Letters of the Association, September 6 and 11, 1919)

To the Firm Members of The Rubber Association of America, Inc.:

There has been received from James M. Baker, Deputy Commissioner of Internal Revenue, under date of September 11th, a letter with advice contrary to that promulgated in our circular of September 11th, with respect to the revised form of manufacturer's certificate called for by Treasury Decision 2915.

This letter ruling is as follows:

"You are advised that the certificate outlined in TD 2852 or 2915 will be accepted on sales between May 1 and August 31, 1919, but the certificate outlined in TD 2915 must be used on sales on and after September 1, 1919."

A. L. VILES, General Manager.

To the Firm Members of The Rubber Association of America, Inc.:

As a matter of information and to supplement your Traffic Department files, we are enclosing herewith a copy of circular issued by the Great Lakes Transit Corporation, setting forth the advantages of forwarding shipments to the Northwest via the rail and lake route of that line as compared with the rates via all rail.

In this connection we also call your attention to the fact that rates via rail and lake also include insurance while the shipments are on board boats of the lake line.

A. L. VILES, General Manager.

(*Enclosure*)

Great Lakes Transit Corporation

The saving in cents per hundred pounds in favor of Rail and Lake route to points shown below from New York and Boston rate points, as against All Rail, is as follows:

To Duluth, Minn., Superior, Wis., and to points in North and South Dakota, and to points in the Canadian Northwest:

1	2	3	4	5	6	R25	R26
60	50½	38½	26½	24	19½	42½	31½

To St. Paul and Minneapolis, Minn., and to points taking same rates:

1	2	3	4	5	6	R25	R26
39	32½	25½	18½	17	14½	27½	21½

The saving in cents per hundred pounds in favor of Rail and Lake route to points shown below from Albany, Utica, and Scranton rate points, as against all rail, is as follows:

To Duluth, Minn., Superior, Wis., and to points in North and South Dakota, and to points in the Canadian Northwest:

1	2	3	4	5	6	R25	R26
70½	52½	42	30½	23½	19	45	33½

To St. Paul and Minneapolis, Minn., and to points taking same rates:

1	2	3	4	5	6	R25	R26
49½	34½	29	21	16½	12½	30½	23

The saving in cents per hundred pounds in favor of Rail and Lake route to points shown below from Syracuse rate points, as against all rail, is as follows:

To Duluth, Minn, Superior, Wis., and to points in North and South Dakota, and to points in the Canadian Northwest:

1	2	3	4	5	6	R25	R26
72	63½	48½	36	29	24½	54	39

To St. Paul and Minneapolis, Minn., and to points taking same rates:

1	2	3	4	5	6	R25	R26
47	34	28	21	15½	13	29	22½

With twenty-two steel steamers in the fleet it is possible to maintain daily service from Buffalo, N. Y., and Erie, Pa., to the western ports of Duluth, Minn., Superior, Wis, and also to Houghton, Hubdell and Hancock, Mich.

St. Paul and Minneapolis rates apply to Ashland, Chippewa Falls, Eau Claire, Rice Lake, Wis., Stillwater, Minn., and many other points in the State of Minnesota.

For information please apply to

W. B. RIDDLE, General Agent,
299 Broadway, New York.

Federal Excise Tax—Revised Form of Manufacturer's Certificate Called for by Treasury Decision 2915 (Circular Letter of the Association, September 6, 1919), Not Required Covering Past Sales

To the Firm Members of The Rubber Association of America, Inc.:

Referring to the second paragraph of circular letter of the Association, dated September 6, 1919, the Association has received a telegram from the Office of the Commissioner of Internal Revenue to the effect that the revised form of manufacturer's certificate embodied in Treasury Decision 2915 need not be obtained with reference to past sales. In other words, where the old form of such certificate, embodied in Treasury Decision 2852, has been obtained in the past, such old form of certificate is sufficient.

A. L. VILES, General Manager.

To the Firm Members of The Rubber Association of America, Inc.:

Referring to our circular letters of July 2nd and August 26th, transmitting advices concerning the issuance of Through Export Bills of Lading via North Atlantic Ports.

We quote the following from circular issued by Traffic Assistant D. L. Gray of the United States Railroad Administration:

"The Director of Traffic now advises that Through Export Bills of Lading should not be issued on traffic destined to Central America, South America, Africa, East Indies including Straits Settlements, Australia or New Zealand."

A. L. VILES, General Manager.

The Rubber Association has been asked by the Rubber Growers' Association, Inc., to present to the American rubber industry details of a prize contest and the Rubber Uses Development Fund which that association has in contemplation. The letter and details follow:

OCTOBER 2, 1919.

To the Firm Members:

There is attached copy of circular prepared by the Rubber Growers' Association, Inc., London, respecting the Rubber Uses Development Fund and the prize contest which that Association has in contemplation. The circular explains itself.

The proposal of the Rubber Growers' Association was given consideration by the Executive Committee of this organization at a meeting on September 26, and I was directed to distribute copy of the circular to the entire membership of this association with the advice that if they found it convenient to make a contribution to the fund they might do so through this organization, which will transmit the total of the contributions to the Rubber Growers' Association with a statement of the donors thereof.

In the interest of ease and safety in handling the contributions it is requested that checks be made payable to the Rubber Association of America, with a statement of the purpose for which they are intended, and this office will in turn make a check out to the Rubber Growers' Association for the total.

Additional copies of the circular may be had if desired and you may be sure that this office wil give every attention to any of the detail which may develop in connection with the contributions from our members to this fund.

A. L. VILES, General Manager.

The circular referred to is as follows:

THE RUBBER GROWERS' ASSOCIATION, INC.,
38 Eastcheap, London, E. C. 3.
23RD JULY, 1919.

Dear Sir(s):

My council have decided to open a "Rubber Uses Development Fund," for the purpose of extending the present uses or encouraging new uses of rubber, and invite contributions from members and others interested in the production of rubber.

It is desired that a minimum of £10,000 should be raised, and in the first place to inaugurate a Prize Scheme in the terms of the accompanying draft particulars. It is proposed to offer £5,000 in prizes; to expend about £2,000 in advertisements; and, if necessary, a sum of £3,000 upon the work entailed in receiving, investigating and adjudicating upon the suggestions sent in, and generally in any direction which might be likely to increase substantially the economic demand for the raw material.

The continued success of the plantation rubber industry will depend on the increasing demand for the commodity, and, having regard to the size of the industry and the amount of British capital involved, my council venture to express the hope that the proposals outlined above will meet with liberal response from all interested in the future welfare of the industry.

The following donations have been given or promised, subject to a minimum of £10,000 being raised:

The Rubber Growers' Association	£1,000	0
Messrs. Harrisons and Crosfield, Ltd.	1,000	0
Straits Rubber Group	1,000	0
Messrs. Guthrie & Co., Ltd.	250	0
Messrs. Edward Boustead & Co.	200	0
Colombo Commercial Co., Ltd.	105	0
Grand Central (Ceylon) Rubber Estates, Ltd.	105	0
London Asiatic Rubber and Produce Co., Ltd.	105	0
Seafield Rubber Co., Ltd.	100	0
Rubber Estate Agency, Ltd.	52	10
Tangkah Rubber Estate, Ltd.	52	10
Batu Caves Rubber Co., Ltd.	50	0

Contributions or promises should be forwarded to the Association as soon as possible, so that the preliminary arrangements in connection with the Prize

Scheme can be made immediately. Any suggestions relating to the scheme which you may care to submit will be welcomed and will receive careful consideration.

FRANK G. SMITH, Secretary.

New Index of Manufacturers

A further bulletin relating to the reissue of an index to manufacturers of the products of the rubber industry is as follows:

SEPTEMBER 22, 1919.

To Rubber Goods Manufacturers:

In May 1918 there was issued from this office a pamphlet entitled "Index to the Manufacturers of the Products of the Rubber Industry."

This publication covered as complete a list of manufacturers of rubber goods as it was possible for the War Service Committee to obtain by extensive inquiry in the industry and the chart showed exactly the products made by each of the manufacturers, the names of which were set down in alphabetical order with the plant or factory address of each shown.

The interest with which this pamphlet was received and the potential usefulness of a compilation of this sort seems to the Executive Committee of this Association to make it highly desirable that the publication be reissued to bring it up-to-date and to correct certain inaccuracies which found their way into the first issue.

There is attached a form listing all the products of the rubber industry of which we have knowledge, grouped under various general heads where that is possible, and we shall sincerely appreciate the prompt return of this form with the name of your company and the factory address shown in the space provided for it and check marks shown against the items manufactured by you.

If your company is producing a commodity not shown in the attached list, please name it in the space provided for this purpose at the end of the list.

The Executive Committee and directors of this Association feel that they express the idea of the entire industry in saying that they consider the early publication of a revised and complete report of rubber manufactures to be very desirable and they urge the prompt return of this form with the information called for.

A. L. VILES, General Manager.

Attached to the foregoing communication was a classified and itemized list of rubber products against which manufacturers checked off the items made by their firms.

New Steamships to Central America

Announcement has recently been made to the effect that the Pacific Mail Steamship Company has arranged for steamship service from Baltimore to Pacific Coast points, Havana, Canal Zone and Central America.

To Firm Members:

"The Pacific Mail Steamship Company has established offices here and will operate the following new steel freight steamers:—'Point Lobos,' 'Point Bonita,' 'Point Adams,' 'Point Judith.'

"All of the above steel steamers were recently purchased from the United States Shipping Board, and the first sailing will be from Baltimore between October 10th and 15th, and they inform us there will be a steamer leaving here every three weeks after that time. The regular ports of call will be Havana, Cuba; Puerto Colombia, Colombia; Cristobal and Balboa in the Canal Zone; Corinto, Nicaragua; Acajutla, Salvador; San Jose, Guatemala; San Pedro, one of the ports of Los Angeles, California, and San Francisco, California, as the terminus."

A. L. VILES, General Manager.

New Express Packing Rules

Preparations are being made to put the new express packing rules into effect on December 10, the date authorized by the United States Railroad Administration, which recently approved the new requirements. This is regarded by express traffic officials as one of the most effective steps taken to safeguard merchandise in transit by express since the unification of the various lines into the American Railway Express Company, which is agent of the Government in handling the express business of the entire country.

The new rules were put into effect to induce shippers to turn their business over to the carrier so that it can, with reasonable care on the part of the express company, be handled properly. The rules will not permit the use of paper wrapping for packages over twenty-five pounds, nor of ordinary paper boxes, wrapped or unwrapped, when the weight of the contents is over that limit. For shipments over twenty-five pounds, wooden containers or fibreboard, pulpboard or corrugated strawboard containers of specified test strengths, are required.

This standardization of express rules will place the express service on the same basis as freight, so far as the character of the cartons used is concerned. In fact, the new express rules were modelled on those of the railroads and require the same kind of containers, except that in the express service a wider latitude is permitted in the size of the carton used. The new regulations are embodied in Supplement No. 5, to Express Classification No. 26, copies of which may be secured at any express office.

The regulations were authorized by the Railroad Administration to meet present-day conditions, when the express traffic has reached abnormal proportions without a substantial increase in the car facilities available for handling it. Express traffic supervisors are of the opinion that the stronger containers required will very perceptibly help to improve the express service and to protect the miscellaneous commodities shipped by express from damage or interference en route. It is calculated that the time remaining before December 10 will be sufficient to enable express shippers to adjust themselves to the new packing requirements.

American Zinc to Locate in Columbus

That the largest rubber and paint manufacturing center in the United States is to have one of their chief raw materials produced at their door is the result of the decision of the American Zinc, Lead & Smelting Company to locate their new oxide plant at Columbus, Ohio.

Thousands of tons of zinc oxide are used annually in the manufacture of automobile tires, tubes and other rubber products. Without zinc oxide rubber goods would have little strength and only a very short life. In the manufacture of paint products zinc oxide is also one of the prime constituents and immense quantities are used in this industry every year. The demand of these many industries for increasing amounts of zinc oxide having overtaxed the capacity of the American Zinc, Lead & Smelting Company's zinc oxide plant located at Hillsboro, Ill., it became necessary to either enlarge the Hillsboro plant or erect a new oxide plant at some other place. After a careful survey and assisted by the aggressive efforts of the Columbus Chamber of Commerce, officials of this company decided to locate their new plant at Columbus, Ohio.

The Zinc Company purchased the forty-acre tract of land belonging to A. Isabel and M. Belknap in the northwest part of Columbus on the Akron division of the Pennsylvania railroad. Ground will be broken in the next thirty days for the erection of a two-block zinc oxide plant. The plant is being designed by the company's engineers and will be laid out with a view of enlarging its initial capacity several times. Construction work will be diligently carried on and the completed plant ready for production about January 1st.

This plant will be given over to the production of Azo ZZZ Brand of zinc oxide. Zinc ores free from lead for making this grade of zinc oxide will be shipped in from the company's own mines located at Mascot, Tenn.

The finished oxide product will be distributed over the many railroads passing through Columbus to zinc oxide users throughout the state of Ohio and in other parts of the country. The remarkable railroad facilities and promptness with which zinc oxide can be distributed from Columbus to all parts of the country was one of the chief reasons for locating this huge industry at that city.

The American Zinc, Lead & Smelting Company is well known to many industries, having been engaged in the production of spelter and sulphuric acid for a number of years, and more recently, producing zinc oxide and pig lead. W. A. Ogg, 55 Congress Street, Boston, Mass., is president of the company and among its influential board of directors are two well known Ohioans—F. H. Goff, president of the Cleveland Trust Co., Cleveland, Ohio, and B. P. Bole, an attorney with offices in the Plaindealer Building. The company's operating office and zinc oxide sales office are located in the Pierce Building, St. Louis, Mo., its executive office is located at 55 Congress Street, Boston, Mass., and its New York sales office is located in the Equitable Building, New York. The company has mines at Mascot, Tenn.; Joplin, Mo., and Platteville, Wis.; zinc smelters at Hillsboro and East St. Louis, Ill., and Caney, Kan., and a lead smelter at Granby, Mo.

Tire to Revolutionize Industry?

An Akron rubber worker, Guy Stever, Miller employee, believes that he has invented a tire that will revolutionize the industry. Mr. Stever has received his patent papers.

In lieu of an air cushion, Stever has substituted flexible steel springs. The casing is of flexible steel in place of rubber.

Stever guarded his secret closely during the five years he worked on it. He made his own blue prints. No working model has been made as yet.

The inventor went to Akron from Philadelphia six years ago, obtaining employment at the B. F. Goodrich Co. as a tire-builder. He worked there four years, accepting a position as steel inspector with the Midvale Steel Co. of Philadelphia and later with the J. G. Brill Car Building Co., where he gained considerable experience with steel springs.

Stever returned to Akron three months ago and went back to his old job of tire building, but with the Miller Co. instead of Goodrich.

The only rubber used in Stever's tire is in the cord tread, it is said.

For 30 x 3-inch tires, Ford size, a 3/16-inch steel spring forms the cushion. The tread is suported by a flexible steel band with the spring beneath. The tire is built onto steel rims and ready for adjustment.

Personals of the Trade

Recent Goodrich Promotions—Portage Announces New Appointments—Changes in Du Pont Sales Organization—Son of F. A. Seiberling Becomes President—Frasse in Charge of Purchases

Recent Goodrich Promotions

W. O. Rutherford, second vice-president in charge of the B. F. Goodrich Rubber Company, has announced five important changes affecting the New York, Philadelphia and Chicago Goodrich branches. H. J. Morehead, who has been manager of the New York branch for the past four years has been advanced to the position of manager of the company's Philadelphia branch and will have charge of the sale of both Goodrich and Diamond tires, as

E. H. Fitch

well as the entire line of rubber products made by the company.

N. E. Oliver, who for many years has had charge of Diamond sales in the New York district, becomes manager of the Goodrich New York branch, and will supervise the sale of all Goodrich products and at the same time retain his supervision of Diamond sales.

Edward H. Fitch, manager of the Philadelphia branch for the past three years, has been called to Akron and promoted to the position of manager of manufacturers sales for the entire line of Goodrich products.

E. P. Rowen, who has been manager of the Goodrich Chicago branch for the past fourteen years, has been called to the factory at Akron to become manager of Diamond tire sales for the entire United States.

C. H. Smith, who for twenty years has had charge of Diamond sales in the big Chicago and mid-west district, is promoted to the managership of the Chicago Goodrich branch in charge of both Goodrich and Diamond tire sales and the company's entire line of rubber products.

New Portage Appointments

Announcement has been made by the Portage Rubber Company of the election of M. S. Long as president of the company. Mr. Long, who was formerly vice-president, succeeds W. W. Wildman who recently resigned as president and general manager. John W. Maguire, president of the Mid-West Rubber Manufacturer's Association and formerly general manager of the Brunswick-Balke-Collender Company's tire department, was elected vice-president and general manager. H. M. Kerr, formerly auditor of factory costs and accounts at the B. F. Goodrich Company, has been appointed comptroller.

The following appointments of branch managers were recently made: New York branch—H. Cassel succeeding H. Kiley; Chicago branch—J. V. Wedgewood succeeding J. W. Wildman; Minneapolis branch—W. R. McCarty succeeding L. T. Ware; Detroit branch—S. R. Waller succeeding L. T. MacGregor; Boston branch—C. E. Aldridge succeeding G. D. Niles; Philadelphia branch—C. T. Anderson succeeding B. Anderson-Smith; Atlanta branch—A. M. Fisher succeeding J. D. Pasho who has been promoted to the position of sales manager.

Additional appointments are as follows: E. W. McCreery, formerly assistant sales manager of the Republic Rubber Co., as assistant sales manager; F. K. Stephenson, formerly export manager of the Republic Rubber Co., as export manager with headquarters in New York; B. M. Schreckingost as special factory representative with headquarters in the factory; Jack Miller as special representative in the State of Texas with headquarters in Dallas.

Promotions in du Pont Sales Department

A number of promotions have been made among the executives in the sales department of the E. I. duPont de Nemours & Company. S. B. Woodbridge has been made Director of Sales of the Lithopone, Dry Colors and Pigment Division.

Mr. Woodbridge was prominently identified with Harrison Bros. & Company of Philadelphia for ten years prior to the taking over of that concern by the duPont Company. He joined the Harrison forces in 1907 as Assistant to the General Sales Manager. He was afterwards salesman for the Company in railroad and industrial work. In 1916 he became Sales Manager for the Beckton Chemical Company, manufacturers of lithopone, and was with this organization, which was allied with the Harrisons, at the time both were taken over by the duPont Company. He has been Assistant Director of Sales in the Acids, Heavy Chemicals, Lithopone, Dry Colors and Pigment Division until recently promoted to his new office.

Seiberling's Son Becomes President

(Special Akron Correspondence)

J. Frederick Seiberling, son of President F. A. Seiberling of the Goodyear Tire & Rubber Co., has been elected president of the Newcastle (Ind.) Rubber Company, a new concern. The younger Seiberling recently returned from overseas service, where he served as an officer with the 134th field artillery. A second cousin, a son of A. G. Seiberling, general manager of the Haynes Automobile Company, is associated with the Akron man.

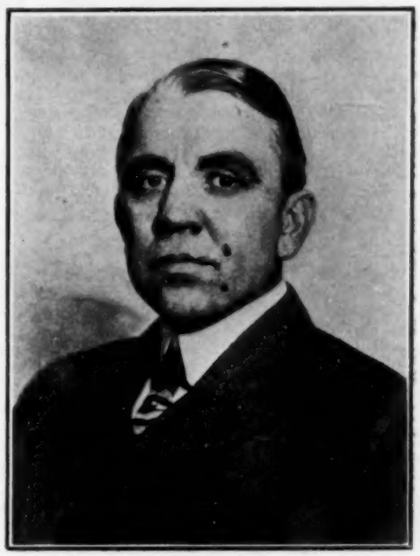
New McGraw Mechanical Engineer

M. C. W. Tomlinson is the new engineer of the McGraw Tire and Rubber Company, in charge of the Mechanical Pepartment.

Before going with McGraw Mr. Tomlinson was connected with the B. F. Goodrich Company, the Baldwin Locomotive Company, the National Tube Company, the Bethlehem Steel Corporation and with a firm of consulting engineers in Chicago.

Frasse in Charge of Purchases

Henry F. Frasse, formerly connected with and widely known in the export machinery and hardware trades, has been promoted to full charge of all purchases, stores and supplies of the Brooklyn Edison Company, Brooklyn, N. Y., with which firm he has been for the past thirteen



E. P. Rowen

years. Those who know Mr. Frasse will recall that his grandfather was a collaborator of Robert Fulton, having made the model from which Bolton & Watt, in England, constructed the engine used in Fulton's Clermont, the first steam-propelled water-craft.

T. R. Tomkinson Assistant Comptroller

(Special Akron Correspondence)

Announcement was made recently by the B. F. Goodrich Rubber Company of the appointment of T. B. Tomkinson to the duties of assistant to Comptroller H. Hough. Mr. Tomkinson has been in the rubber business for many years starting with the old Diamond Rubber Company, and has earned an enviable reputation in accounting circles for new ideas he introduced in factory cost and other departments. He perfected a system which was largely used by big companies during the recent war chest and Liberty Loan drives to keep account of the subscriptions and payments made by employes.

Assistant Sales Manager for Mason

M. M. Whorley, formerly of Syracuse, N. Y., has accepted the position of assistant sales manager for the Mason Tire and Rubber Company. Mr. Whorley comes to the Mason Company after six years experience as manager of the Firestone branch at Syracuse. He was also the Ford representative in that city for a considerable period.

Rubber Products Elects Officers

The Rubber Products Company is in a prosperous condition, as shown by statement given to stockholders at the annual meeting held at the offices in Barberton.

The company's business, month by month, as compared with last year, shows an increase of fifty per cent or better.

W. A. Johnston, president of the company, told the stockholders that an additional $150,000 in stock is being offered to stockholders, pro rata, at par. This brings the company up to a $1,000,000 corporation, all of which is common stock.

The following directors were elected for the ensuing year: William A. Johnston, C. C. Schutz, E. J. Schutz, J. W. Blaser, Joseph J. Johnston, R. A. Miller and J. B. Chisnell. Following the stockholders' meeting, a meeting of the directors was held and William A. Johnston was elected president and treasurer; C. C. Schutz, vice-president and general manager; E. J. Schutz, superintendent and assistant treasurer; J. M. Wylie, secretary, and J. B. Chisnell, assistant secretary.

Schrader Upheld in Price-Fixing Suit

A decision of importance to manufacturers of widely advertised products, with relation to the right of a manufacturer to fix the resale prices of his products, has been handed down by Judge Westenhaver, of the United States District Court of Ohio, in the case of A. Schrader's Son, Inc., whom the Federal Grand Jury had indicted on the ground of certain contracts made by A. Schrader's Son, Inc. with the tire maker and jobber for the handling of its goods, which contracts fixed the prices at which the tire maker might sell to the jobber, retailer and consumer and the jobber might sell to the retailer and consumer. A demurrer to this indictment was filed by A. Schrader's Son, Inc., which demurrer was recently re-argued before Judge Westenhaver.

The Government contended that the entering into of these contracts was an offense against the Sherman Anti-Trust Law, and that the case was not controlled by the decision of the Supreme Court in the Colgate case, which held that a manufacturer could choose his own customers and announce in advance that it would deal only with such customers as maintained the prices fixed by the Colgate Company.

The contention of the Schrader Company was that there was no essential difference between its selling plan and that of the Colgate Company, and that the mere fact that it announced its prices in a written license agreement which was signed by the tire makers and jobbers did not bring the case within the Sherman Act.

The decision of Judge Westenhaver was in effect that the charges in the Schrader Company indictment did not constitute a crime under the Sherman Anti-Trust Act, and the indictment was accordingly dismissed. The Court refers to the fact that under the decisions in the Colgate case the manufacturer has the right to absolutely refuse to deal with anyone who does not maintain the prices indicated by him, and that the effect of this may be in some cases even to put the dealer out of business.

The Schrader Company is engaged in the manufacture of tire valves, valve parts, tire pressure gauges and other accessories related to tires, and markets quantities of such devices through tire makers acting as wholesalers and through jobbers. Such goods are patented, but from the opinion of Judge Westenhaver it would appear that his decision would have been the same if the goods had not been patented.

It is apparent under this decision that if the Schrader Company licensees do not observe the prices fixed, the Schrader Company would be well within its rights to refuse to sell them any further products.

Pardee to Represent Manufacturers

A. L. Pardee has tendered his resignation as purchasing agent of the B. F. Goodrich Company after a service of twenty-five years with the rubber industry in Akron, in order that he may enter business for himself as a manufacturer's representative. Mr. Pardee has specialized in the purchase of goods for the Goodrich Company for many years and is well qualified for his new venture.

A. L. Pardee

In 1894 Mr. Pardee entered the employ of the Diamond Rubber Company and later succeeded to the office of purchasing agent. At the time of the merger of the Goodrich and Diamond companies he assumed similar duties with the Goodrich Company. Mr. Pardee will remain in Akron and open offices in one of the downtown office buildings.

Pennsylvania Issues New Prices

The Pennsylvania Rubber Company, of Jeannette, Pa., recently issued a revised schedule of prices which went into effect on October 1. A high and rising market on fabric and other materials is given as the reason for the changes. The new schedule is as follows:

Size.	Vacuum Cup Casings, Fabric.	Vacuum Cup Casings, Cord.	Channel Tread Casings, Cord.	"Ton Tested" Tubes, Regular.	"Ton Tested" Tubes, Extra-Heavy Cord Type.
30 x 3	18.45	.....	.....	3.00	3.75
30 x 3½	23.70	38.55 } 6 ply	35.85 } 6 ply	3.80	4.75
32 x 3½	27.90	42.95 }	39.95 }	3.50	4.40
31 x 4	37.30	.....	.....	5.20	6.50
32 x 4	37.95	54.45	49.05	5.25	6.55
33 x 4	40.05	56.00	50.45	5.50	6.90
34 x 4	40.85	57.40	51.65	5.65	7.05
32 x 4½	52.75	61.35	53.75	6.80	8.50
33 x 4½	54.90	63.00	55.20	6.95	8.70
34 x 4½	55.35	64.65	58.20	7.00	8.75
35 x 4½	57.60	66.15	59.60	7.10	8.90
36 x 4½	58.20	67.80	61.00	7.30	9.15
33 x 5	67.40	76.60	68.95	8.05	10.05
35 x 5	70.95	80.35	72.35	8.50	10.65
37 x 5	74.60	84.05	75.70	8.85	11.05

F. M. Shepherd, Jr. Passes Away

Frederick M. Shepherd, Jr., president of the Goodyear Rubber Co., New York City, died at his home in East Orange, New Jersey, September 17, aged 61 years.

Mr. Shepherd was a lineal descedent of Edward Shepherd, who came from England and settled in Cambridge in 1638. The father, Frederick M. Shepherd, was president of the Union India Rubber Company in the early 'fifties, founder and president of the Goodyear Rubber Company from 1872 to 1906, and president of the United States Rubber Company from 1896 to 1902.

The son became connected with his father's enterprises in early life, and was secretary of the Goodyear Rubber Company, and succeeded to the presidency on the retirement of his father, carrying on the business in the same lines which had proven so successful. He also succeeded his father as president of the Orange Water Company, which was founded by the elder Shepherd, and held the same position with the East Orange Safe Deposit and Trust Company, which he was instrumental in establishing.

Mr. Shepherd is survived by his widow and three sons, one whom, Newell C., is secretary of the Goodyear Rubber Company.

Standard Tire Pays Dividend

The Standard Tire Company, of Willoughby, Ohio, is paying a 50 per cent. stock dividend out of surplus and is selling $350,000 additional stock to their present stockholders. One-half of this is common and the other half is preferred. They are also increasing the common to one million and the preferred to $500,000, as it has heretofore been $350,000 common and $150,000 preferred.

About the first of the year R. J. Firestone, Tom A. Palmer and E. A. Tinsman, acting together, interested Akron capital and purchased the plant of the old Standard Tire & Rubber Manufacturing Company at Willoughby, Ohio. The refinancing which has taken place was brought about by increased business requiring additional funds to handle the ever-increasing demand for their product. In the last three months they have more than doubled their output and with the additional capital it will be, of course, materially increased.

The new power plant for which the company let contracts sometime ago is progressing and will probably be in full operation by the first of January.

Swinehart Leaves United and Globe

B. C. Swinehart, formerly general manager of the United and Globe Rubber Company, of Trenton, N. J., recently resigned his position and is returning to Akron. Mr. Swinehart states that he is not yet ready to name the firm with which he will be identified in the future.

MARKETS

Manufactured Rubber Goods

NEW YORK, Oct. 10, 1919.

Business in manufactured rubber goods continues to show a general improvement, although in some lines business could be more active. The bulk of the business being booked is for domestic account, the export situation being a minor factor in the market at the present time, as far as Europe is concerned, due to the low rates of exchange.

A good demand for various articles is looked for from Germany when peace shall have been proclaimed, but this business is contingent upon the granting of sufficient credits to the country to enable it to get back upon its feet again in an economic way. Not much business can be looked for with the mark at its present valuation at about 3.60.

AUTOMOBILE TIRES

The trade was considerably interested in the action of the Pennsylvania Rubber Company, of Jeanette, Pa., in advancing prices on its tires for an average of about 15 per cent. In the announcement of the increase, the company pointed out the advancing market on fabric and other materials, and feels that it is obliged to increase their price, which had been reduced on July 19. The increase went into effect on Oct. 1.

Thus far, none of the other tire companies have followed the action of the Pennsylvania Rubber Company but concerted action by a majority of the companies would not come wholly as a surprise to the trade. The market is advancing on many items, and it hits one manufacturer as well as another. It is only the keen competition between the various makers of the leading tires which is keeping prices at their present levels, and the smaller companies can hardly hope to advance until one of the larger companies takes the initiative.

There has been some export demand for automobile tires during the past few weeks, and some fairly large job lots have been cleared for shipment abroad. However, these tires are sold at greatly reduced prices.

DRUGGISTS' SUNDRIES

The unsettled condition of the market for crude rubber, together with the uncertainties of present prices on manufactured goods, are causing retailers, as a rule, to adhere to their policy of purchasing only enough goods to cover their immediate consuming requirements. Some demand for surgical instruments is noted, both for domestic and export shipment, and a strong buying movement of all kinds of sundries is looked for should there be a recurrence of the influenza epidemic this winter, as so many authorities are asserting will be the case.

MECHANICAL GOODS

Business in this line is not yet up to the market. The railroads are buying little equipment, although manufacturers still entertain hopes that heavy purchases of couplings and other equipment may not be long delayed. Labor difficulties in many mills, causing in the shutting down of various plants, is being reflected somewhat in a lessened demand for belting.

MISCELLANEOUS PRODUCTS

A big jump in the sales of raincoats has been the result of the recent rainy weather. Most of the large department stores have been running sales of the coats, and stocks have been moving rather freely. Some competition is being met in the sale of army raincoats at $5.50 by the Army Quartermaster Corps retail stores. However, the tendency appears to be to get away from the uniform cut, and the belted models put out by private manufacturers are much more in demand.

The buying of rubber jar rings has been very light of late, and the annual preserving season has passed with goods put up this season. The shortage of sugar has reached such a point that housewives are not even able to get enough for table use, without using any for preserving fruits.

Exports

There are some indications of early action on the treaty peace, and with Great Britain and France already having voted ratification, American business men in general are hoping to see some action taken by the United States which would permit of an early resumption of world trade. An early ending of the difficulties now tieing up international trade would result in an opening of the markets of practically all of the world.

Cotton men are looking for a strong demand for the staple from Germany when the markets are re-opened and there are some who predict that should Germany be granted sufficient credits to enter the American market on a large scale, cotton may soar as high as 40 cents before the end of the year. Manufacturers and dealers of the finished fabrics are also anticipating some demand for their goods.

There is some export demand for tires and other rubber goods reaching this country right along, but manufacturers believe that should the export ban and blockades be lifted, and the former belligerent nations be granted credits, business will boom. Germany in particular is looked to as a heavy buyer of American rubber goods, as the industry there is run down.

Producers of chemicals and compounding materials are looking for some export buying of their products, despite the fact that they must face German competition in European markets. Many of the products developed in the United States during the war to replace those formerly imported from Germany have definitely proven their superiority over the German products.

Cotton, Yarns and Fabrics

NEW YORK, Oct. 10, 1919.

Raw cotton has been in an unsettled condition since our last report. Strength ruled in all quarters following the issuance of the Government report late in September, estimating the crop at 11,230,000 round bales, as against an estimate of 11,640,000 bales in August. Pessimistic views are held by many, and it is expected that the next estimate may show the crop to be below 11,000,000 bales, as a result of unfavorable weather and operations of insect pests.

After breaking to 30.60 early this month on news of the English railway strike, the market subsequently rallied and advanced to 33 cents per pound, following the reappearance of unfavorable weather in the belt and reports of renewed insect damage. A heavy trade-buying movement followed this rise, and in addition Japanese and English buyers took large quantities of the staple.

Heavy rainfall in the Central and Western growing sections is causing more anxiety as to the probable deficit in supplies of the finer grades. There has been a good demand for these grades, and it is believed that some speculative interests are taking hold in anticipation of a revival in export buying. Much of the future depends upon the export situation and the weather conditions in the South.

SEA ISLAND COTTON

There is little new to relate in regard to the Sea Island cotton situation. There are no possible chances for an increase in production this year, and users of the staple are turning to the use of other cottons.

EGYPTIAN COTTON

There is a good call for Egyptian cotton in the market, and there is a steady undertone featuring. Several large cargoes have been received in the local markets, but the supply is still below the consuming demand.

TIRE FABRICS

The market is strongly held, with many producers sold up well ahead. Many producers are working their plants at capacity to keep up with the demand, but are unable to get their raw materials in quantities sufficient to take care of their business.

DOMESTIC EGYPTIAN COTTON

There is a strong demand for this

variety of cotton, the Pima grade in particular being wanted. New crop is being sold on the basis of 67 and 68 cents per pound for shipment during December, and there is a heavy buying movement, particularly of the 1¾-inch staple.

HOSE AND BELTING FABRICS

Demand for the fabrics continues fair, but business in the finished materials continues generally slow, and manufacturers are not buying in very large volume.

DRILLS, SHEETINGS AND OSNABURGS

There is an active inquiry for drills and sheetings reaching dealers, and the rubber trade is a good buyer in the present market. Osnaburgs rule generally quiet.

BURLAPS

A strong tone features the market for burlaps, and prices are quoted higher than at our last writing. The heavier grades are in best demand, and spot supplies are well sold up. Importers quote futures one-quarter cent below the spot market.

TIRE FABRICS

17¼-ounce Sea Island, combed,	sq. yd.	1.45	@1.55
17¼-ounce Egyptian, combed		1.20	@1.30
17¼-ounce Egyptian, carded		1.12	@....
17¼-ounce Peelers, carded		.95	@....
17¼-ounce Peelers, combed		1.20	@....

DUCKS

Belting (pound basis)	lb.	.65	@....
Hose (pound basis)		.65	@....

DRILLS

37-inch 2.35-yard	yd.		@
37-inch 2.75-yard		.24½	@
37-inch 3.00-yard		.23	@
37-inch 3.25-yard		.21	@
37-inch 3.50-yard		.20	@
37-inch 3.95-yard		.18½	@
37-inch 2.00-yard Southern			@
37-inch 2.00-yard Northern			@
40-inch 2.40-yard Southern			@
40-inch 2.40-yard Northern			@
52-inch 1.90-yard Southern			@
52-inch 1.90-yard Northern			@

SHEETINGS

40-inch 2.35-yard	yd.	.31½	@
40-inch 2.50-yard		.29¾	@
40-inch 2.85-yard		.26	@
40-inch 3.00-yard		.23½	@
40-inch 3.25-yard		.22	@
40-inch 3.75-yard		.19½	@ .20
40-inch 3-60-yard		.23½	@
40-inch 4.25-yard		.19	@

Note.—**In view of the unsettled conditions prevailing in the market at the present time, the prices quoted above are more or less nominal, and are not guaranteed.**

BURLAPS

(Carload lots)

	Cents Per Yard
7 -ounce 40-inch	Nominal
7½-ounce 40-inch	14.50@
7½-ounce 45-inch	16.85@
8 -ounce 36-inch	@
8 -ounce 40-inch	14.25@
8½-ounce 40-inch	@
10 -ounce 36-inch	@
10 -ounce 36-inch	18.00@
10 -ounce 45-inch	20.00@
10½-ounce 40-inch	18.50@

Chemicals and Compounding Materials

NEW YORK, Oct. 10, 1919.

A continued strong demand for chemicals and compounding materials has been reported during the past fortnight and continued strength has ruled in all branches of the market. Domestic business has been steadily increasing on many lines, and prices are showing a firmer tone.

The export situation has shown little change, European countries showing but little interest in the domestic market, due to the high exchange rates now prevailing. South America continues to place some fairly large orders, however, and sales have also been made to Australia.

BENZOL

The market continues to show a strong undertone, with prices held on the basis of 22 to 27 cents per gallon. Some producers are sold up ahead on their production.

LITHARGE

Demand continues active, and there is a heavy volume of business being booked by producers. The market is firmly held on the quoted basis.

LITHOPONE

Labor troubles are interfering with the production of lithopone, but there is an active demand, and consumers take care of all that can be produced. German competition is not a serious menace in the market. Some producers are behind on their contract deliveries.

WHITING

The market is well sold up and some producers are falling behind in their orders. Imports of English cliffstone are not large at the present time, and the market is firmly held.

ORANGE MINERAL

There has been no change noted in this market, and a steady consuming demand is reported by dealers. The market holds firm in sympathy with the firmness in other leads and pigments.

BARYTES

The demand continues strong at unchanged quotations. The shortage of railroad cars in the West is holding up shipments to some extent, and consumers are not able to get the stock as fast as they would desire. The market rules firm at $21.00 and $21.50. Germany is starting the movement of barytes to this country.

GLUES

There is a fair demand for glues reaching manufacturers from the rubber trade, and the market holds firm. Demand appears keenest for top and low grade stock, medium grades selling but mildly.

DRY COLORS

The market rules firm in all branches, and no further instances of price cutting are reported. Blacks continue in good request from the rubber trade, and blues are also strongly held. Browns hold firm under a routine demand, and greens are unchanged. A good demand for American red is noted, while yellows are unchanged.

OILS

The market holds generally steady in all its branches. Aniline oil is in short supply, and rules firm at 28 cents. Linseed oil is in fair demand, with the market still well sold up, while a firm position characterizes corn, palm, and other vegetable oils.

Prices Current for Chemicals, Fillers, Colors, etc.

Acetone, carlots	lb.	.13½	@ —
Smaller lots	lb.	.15	@ .16
Accelerator, in drums	lb.	.85	@ 1.00
Acids, Acetic, 56%	cwt.	6.00	@ 6.50
Carbolic, C. P.	lb.	.12	@ .13
Muriatic, 20 deg.	cwt.	2.00	@ 2.25
Muriatic, 22 deg.	cwt.	2.50	@ 2.75
Nitric, 42 deg.	cwt.	7.00	@ 8.00
Nitric, 40 deg.	cwt.	6.75	@ 7.50
Sulphuric, 60 deg.	ton	17.00	@ 18.00
Tartaric, crystals	lb.	.79½	@ —
Aluminum Flake	ton	29.00	@ 31.00
Aniline oil, bulk basis.			
Contract		—	@ —
Imported		Nominal	
Domestic		.32	@ .33
Antimony, metal spot.	lb.	.08¾	@ .08¾
Oxide	lb.	.09	@ .11
Sulphuret, red	lb.	.25	@ —
Sulphuret, golden	lb.	.24	@ —
Sulphuret, crimson	lb.	.48	@ .50
Needle, powdered	lb.	.09	@ .10
Asbestos	ton	35.00	@ 45.00
Asphaltum, Egyptian	lb.	.16	@ .20
Domestic	ton	22.00	@ 30.00
Barium sulphate, technical	lb.	.04½	@ .05
Sulphide	lb.	07¼	@ .07½
Barytes, prime white imported	ton	Nominal	
white, domestic	lb.	.30	@ .31
off color, domestic	lb.	.21	@ .24
Southern, f.o.b. mills		21.00	@ —
Western, f.o.b. mills		21.50	@ —
Benzol, pure, bulk	gal.	.22	@ .27
Beta-naphtol, sublimed	lb.	.55	@ .65
unsublimed	lb.	.50	@ .62
Blacks, Drop	lb.	.05½	@ .15
Ivory	lb.	.16	@ .30
Carbon, gas, cases	lb.	.12	@ .25
Lampblack, R. M.	lb.	.15	@ .45
Mineral blacks	ton	35.00	@ 45.00
Blues, Prussian	lb.	.65	@ .75
Soluble	lb.	.68	@ .78
Ultramarine	lb.	.12	@ .40
Browns, Umber, Turkey, burnt, powdered	lb.	.05	@ .06½
American, burnt	lb.	.03½	@ .04
Cadmium sulphide, yellow	lb.	2.00	@ —
Carbon, Bisulphide, bulk	lb.	.06½	@ .07
tetrachloride drums	lb.	.11	@ —
Caustic Soda, 76@78%	cwt.	3.25	@ 3.50
Chalk, precipitated, extra light	lb.	.05½	@ .06½
light	lb.	.05	@ .06
heavy	lb.	.05½	@ .06
China clay, domestic	ton	8.50	@ 20.00
imported	ton	18.00	@ 23.50
Fossil flour	lb.	.03¾	@ .05
Gilsonite	ton	47.50	@ 60.00
Glue, extra white	lb.	.35	@ .40
medium	lb.	.30	@ .35
low grade		.20	@ .25
foot stock		.13	@ .18
brown foots		.12	@ .16
common bone		.11	@ .15
Glycerine, C. P. (drums)	lb.	.20	@ .21
cans		.21½	@ .22
second hands		—	@ —
Graphite, flake (bbl.)	lb.	.14	@ .25
powdered (bbl.)	lb.	.05	@ .10
Green, chrome, R. M.	lb.	.35	@ .40
Ground glass (fine)	lb.	.03½	@ .04
Hexamethylene	lb.	.90	@ 1.00
Infusorial earth, powd'd.	lb.	.02	@ .035
bolted	lb.	.035	@ —
Iron oxide, red, reduced grades	lb.	.07	@ .08
red, pure, bright	lb.	.15	@ .20
Lead, red, dry (casks)	lb.	.10¼	@ .10½
sublimed	lb.	.09¼	@ .09¾
white, basic carb.	lb.	.09	@ .09½
white, basic sulp.	lb.	.08¼	@ .08½
Lime flour	lb.	.01¾	@ .02
Litharge (casks)	lb.	.09¾	@ .10½
English	lb.	.12	@ .13
Lithopone, domestic, bbls.	lb.	.07	@ —
in bags	lb.	.06⅞	@ —
Magnesia, carbonate	lb.	.12½	@ .13½
calcined light	lb.	.65	@ .75
Magnesite, calcined, pwd.	ton	50.00	@ 65.00
Mica, powdered	lb.	.04¾	@ .05
Naphtha, motor gasoline, (steel bbls.)	gal.	.23½	@ —
68 @ 70 degrees (steel bbls.)	gal.	.30½	@ —
70 @ 72 degrees (steel bbls.)	gal.	.31½	@ —
73 @ 76 degrees (steel bbls.)	gal.	.33½	@ —
machine (wood bbls.)	gal.	.36½	@ —
Oil corn, crude factory	lb.	.16	@ —
corn, refined (bbls.)	lb.	.24	@ —
*linseed (bbls.) spot		1.90	@ —
Dec.		1.60	@ 1.65
in carloads, spot		1.85	@ —
tank cars		1.80	@ —
Cottonseed oil		.24	@ —
Oil palm, Lagos	lb.	.17	@ .18
Niger		.16	@ .16¼
pine, yellow	gal.	.85	@ —
rapeseed, refined	gal.	1.58	@ 1.60
rapeseed, blown	gal.	1.65	@ 1.75
rosin, first rectified	gal.	.88	@ —
second run		.92	@ —
tar (commercial)	gal.	.34	@ —
Orange mineral, American	lb.	.13¼	@ .14¼
imported	lb.	.15	@ .20
Paraphenylenediamine	lb.	2.90	@ 3.40
Petrolatum, bbls., amber	lb.	.07½	@ .08
pale yellow	lb.	.06	@ .07
Pine tar kiln	bbl.	12.00	@ 12.50
Pitch	bbl.	8.00	@ 8.25
Plaster of paris	bbl.	2.00	@ 3.00
Red Tuscan	lb.	.22	@ .30
Indian (reduced)	lb.	.14	@ .16
Standard	lb.	.12	@ .16

Rosin (common to good)—			
280 lbs .....bbl.	17.35	@	—
Rotten stone, powdered..lb.	.02½	@	.04½
Rubber, substitute, black..lb.	.11	@	.20
white .....lb.	.12½	@	.23
brown .....lb.	.15	@	.23
Shellac, fine orange.....lb.	—	@	—
T. N. .....lb.	1.25	@	—
Bleached ordinary..lb.	1.50	@	—
Bleached bonedry...lb.	1.30	@	1.35
Silex (silica).....ton	22.00	@	40.00
Soapstone, powdered...ton	12.00	@	17.50
Starch, corn, powd....cwt.	5.62	@	—
pearl	5.37	@	—
Jap. potato .....lb.	.09⅝	@	.09⅝
Sulphur, crude.....ton	*50.00	@	—
100 pounds.....	3.20	@	4.25
roll	2.70	@	3.15
commercial superfine..	2.50	@	—
Talc, American.....ton	20.00	@	40.00
French .....ton	*30.00	@	35.00
Toluol, pure, in drums.gal.	.25	@	.30
commercial	.22	@	.27
Tripolite earth .....lb.	.01⅛	@	—
Turpentine, pure gum—			
spirit .....gal.	1.63	@	—
wood .....gal.	1.58	@	—
Venice, artificial .....gal.	.14	@	.15
true	4.50	@	—
Vermilion, English .....lb.	1.40	@	1.45
American	.25	@	.30
Wax, beeswax, crude yel. lb.	.48	@	.49
refined	.50	@	.53
Bayberry	16	@	17
ceresin, white .....lb.	.14	@	—
yellow			
Wax, Paraffin, refined, 118/120 M. P. (bbls.).lb.	.07½	@	—
Paraffin, 125/127 M. P. .....lb.	.08¼	@	—
Wax, Paraffin, 128/130 M. P. .....lb.	.08⅞	@	—
133/135 M. P.....lb.	.10	@	.10½
Crude, 120/122M.P.lb.	.07¾	@	.08
124/126 M.P.....lb.	.10½	@	.10¾
Whiting, commercial...cwt.	1.15	@	1.20
Alba .....cwt.	1.25	@	—
Paris, white, American .....cwt.	1.50	@	—
English cliffstone.cwt.	1.75	@	2.50
Yellow chrome C. P....lb.	.23	@	—
†Zinc oxide, States Brand.	†.10	@	—
horsehead brand....lb.	†.10	@	.10¼
selected .....lb.	†.09¾	@	—
"XX red".....lb.	†.09¼	@	—
French process, green seal .....lb.	†.10¾	@	—
red seal.....lb.	†.09¾	@	—
white seal.....lb.	†.11¾	@	—
substitutes .....ton	35.00	@	40.00
sulphate, pure.....lb.	*.04	@	.04¼

* Nominal. † Contract prices.

Crude Rubber

NEW YORK, Oct. 10, 1919.

There has been a fair demand for plantation grades of rubber during the early part of the month, and the market has shown a steady tone. Tire manufacturers are buying in large quantities at present prices. In this respect, it is interesting to note that although all other commodities entering into the manufacture of tires have gone up during the war, rubber has not changed materially in price, due, doubtless, to the heavy increases in production, which continue to keep pace with the increase in demand.

The market is generally quoted at a higher range than at our last report. Tire repair concerns are buying in better volume, and other interests are also taking fair quantities of stock.

Para—Up-river fine	54½	@	56
Up-river medium	52	@	....
Up-river coarse	33	@	33½
Caucho ball	31½	@	33
Islands fine	47½	@	....
Islands coarse	21½	@	22..
Cameta	22½	@	....
Madeira fine	56	@	....
Knapsack	73	@	....
Ceylons—Smoked sheets, ribbed.	48½	@	....
Smoked sheets, plain.....	46	@	....
First latex pale crepe.....	49½	@	42
Amber crepe	Nominal		
Clean brown crepe.....	54	@	....
Rio Nunez String.....	55	@	....
Prime Surinam sheets.....	1.02	@	....
Centrals—Corinto prime.....	33	@	....
Esmeralda, prime	32	@	....
Mexican scrap.....	25	@	....
Balata sheets.....			
Guayule, wet	24	@	....
Balata, block, Panama.....	42	@	....

Scrap Rubber

NEW YORK, Oct. 10, 1919.

A fair domestic jobbing demand is reported for scrap rubber. Thus far, the upward tendency of the crude has had little or no effect upon the prices of scrap or reclaimed rubber, and the market remains firm. There has been a good demand reported for old tires, while demand for boots and shoes has also been fair. Inner tubes show little activity, while the market for arctics is quiet.

	Cents Per Pound		
Boots and shoes.....	7.75	@	8.00
Arctics, trimmed	6.00	@	6.50
Arctics, untrimmed	4.75	@	5.00
Tires—Automobile	3.25	@	4.00
Bicycles, pneumatic	2.75	@	3.25
Mixed hose	1.00	@	1.25
Air brake	4.00	@	4.25
Inner tubes, No. 1.....	19.00	@	19.50
Inner tubes, No. 2.....	10.00	@	10.50

Dependency on Britain for Rubber

According to a report sent to the Department of Commerce for the representative of an American rubber company, the listing of the Government control of raw material and of exports among the reconstruction policies of European nations will not be without its effect on America's supply of raw rubber, especially since the American rubber industries are entirely dependent upon importations, and chiefly upon the productions of British Colonial possessions.

During 1917 Far Eastern plantations produced about 79.5 per cent. of the world's supply of crude rubber; the British colonies turned out approximately 80 per cent. of this, or 63 per cent. of the total production of the world. The only American possession suitable for the growing of rubber is the Philippines, and they produced the insignificant total of 147 tons in 1917, or sufficient to last one of the large American manufacturers about one day.

Indications are that plantations will henceforth furnish an increasing proportion of the world's supply of crude rubber. The difficulties of producing wild rubber in sufficient quantities in Brazil and other districts, together with its high cost of production and the superior, clean condition of plantation rubber, render the gathering of wild rubber disadvantageous compared with plantation rubber. It is said that the cost of production of plantation rubber averages approximately 25 cents gold per pound f. o. b. Far East, whereas Up River fine cannot be produced profitably under 55 cents per pound f. o. b. Brazil.

It is notable that 76 per cent. of planted acreage of plantation rubber is owned by British capital and 2.8 per cent. by American capital, according to best available authorities, as follows:

Plantation Interests.	Acreage.	%
British	1,513,576	75.9
Dutch	260,000	13.0
French and Belgian.....	100,000	5.0
American	55,000	2.8
German	3,400	.2
All other.....	63,577	3.1
Total.....	1,995,553	100.0

The 55,000 acres planted and controlled by American capital comprise the estate of the General Rubber Co. in Sumatra. American interests have also recently acquired 40,000 acres of undeveloped land in Sumatra. A very limited area is also planted to rubber in Mindanao, Philippines.

A fraction of over 66 per cent. of all rubber plantations are situated in British colonies, so that Great Britain exercises both political and financial control over the supply of this important raw material. Of the total acreage under British control 807,491 acres are in the Federated Malay States and Johore, 159,500 acres in the Straits Settlements, 251,500 in Ceylon, 41,820 in South India, 29,880 in British Borneo, 26,390 in British Burmah and 5,000 in the South Sea Islands.

Under the Dutch flag there are 352,455 acres in Sumatra, 238,830 acres in Java and 10,100 acres in Dutch Borneo, giving the Netherlands political control over 49 per cent of the total world acreage in rubber plantations. France controls 10,000 acres in Cochin China, and the share of all other countries amounts to 62,577 acres. An almost unlimited area of desirable land for rubber plantations is as yet available for development in Sumatra and Borneo, but such is not the case with the Malay Peninsula, Ceylon and Java.

The only place on American soil where conditions have been found favorable to rubber growing is the Philippine Islands, where about 147 tons were produced in Mindanao in 1917.

Oil and Food from Rubber Seed

The Weekly Bulletin of the Trade and Commerce Department at Ottawa has the following to say in regard to the commercial use of rubber seed for oil, cattle food, rubber substitutes, etc.:

There has been considerable discussion during the past year or two concerning the utilization of Para rubber seed for oil, and it is stated that already exhaustive experiments have been made along this line. It is cited that in one instance oil from rubber seed was sold at about $250 a ton at a time when the price for linseed oil stood at $300. Experts are of the opinion that this oil could probably be successfully used in the manufacture of paints and varnishes, linoleums, soft soap, rubber substitutes, etc.

In addition to the use of rubber seed for the purposes above mentioned, it is stated that experiments conducted in this country have clearly shown that a feeding cake for cattle and other stock, favorably comparing with linseed and other oil cake, can be produced from the residue of the Para rubber seed, after the oil is extracted, thus affording an opportunity for the development of a profitable industry in connection with oil extraction.

In British Malaya alone it is said that there were last year nearly 2,000,000 acres in possession of rubber estates. Of this area over 1,000,000 acres were planted, and no less than 633,000 acres were producing rubber. The quantity of seeds thrown off each year by the trees is estimated at over 300 pounds to the acre; nevertheless, though these seeds contain valuable constituents of oil and meal, no attempt has been made to preserve them for the world's markets. The seeds fall to the ground and are left to rot, and what might be turned into a rich and important industry is neglected.

Brandt Leaves McGraw

Clyde L. Brandt of the Safety Department of the McGraw Tire and Rubber Company is soon to leave to accept the position as Director of Music of the Southeastern Missouri, State Teachers' College at Cape Gerado, Mo. Mr. Brandt is a graduate of Worcester Conservatory of Music.

American Rubber Patents

ISSUED SEPTEMBER 23, 1919.

1,316,562—James A. Dunphy, Groton, Mass., assignor, by mesne assignments to United Shoe Machinery Corp., Paterson, N. J. Rubber-soled shoe and method of making the same.

1,316,594—Silas C. Rand, Chicago, Ill. Tire casing.

1,316,605—James H. Wagenhorst, Akron, Ohio. Wheel with tire carrying flange.

1,316,606—James H. Wagenhorst, Akron, Ohio. Wheel rim.

1,316,686—John C. Chapman, New York, N. Y. Tire.

1,316,757—Chris Arduser, Coggon, Iowa. Tire shoe.

1,316,758—Ohmer H. Bartholomew, Peoria, Ill. Collapsible wheel rim.

1,316,766—John T. Clark, Provo, Utah. Vehicle wheel tire.

1,316,773—Amand Delille Daigre, Levallois-Perret, France. Elastic tire for wheels of vehicles and method of forming the same.

1,316,873—Wilhelm Berndt, Howard Grove, Wis. Anti-skid chain for vehicle wheels.

1,316,978—James F. Robinson, Minneapolis, Minn. Vehicle tire.

1,317,010—Alson F. Fairchild, Delavan, Wis. Wheel tire.

1,317,078—Enoch P. Dill, Pittsburgh, Kan. Automobile tire remover.

1,317,097—Henry C. Peters, North Middletown, Ky. Resilient wheel.

1,317,105—Leslie G. Rolier, Humeston, Iowa. Rim.

1,317,111—Webster F. Traves, Cleveland, Ohio. Tire healing composition.

1,317,124—Dana E. Booth, Tulsa, Okla. Vulcanizing device.

1,317,136—Charles Bascom Howell, Los Angeles, Calif. Rim expanding and contracting tool.

1,317,143—James Peterson and William L. Peterson, Auburn, Neb. Pneumatic tire tool.

ISSUED SEPTEMBER 30, 1919

1,317,185—W. Twombly, Freeport, Texas. Tread for pneumatic tires.

1,317,374—Curt Kuentzel, New York, N. Y., assignor to the Goodyear Tire & Rubber Co., Akron, N. Y. Tire machine.

1,317,426—Joseph B. Brennan, Akron, Ohio. Method of making sheet stock for pneumatic tires.

1,317,478—William N. Booth, Detroit, Mich., assignor to Kelsey Wheel Co., Inc., Detroit, Mich. Vehicle wheel rim.

1,317,526—Arthur J. Savage and Howard I. Morris, San Diego, Calif., assignors to the Savage Tire Co., San Diego, Calif. Tire finishing stand.

1,317,568—Marcus H. Forness, Taylor, Wis., assignor to Joseph F. F. Willete, Seattle, Wash. Tire chain.

1,317,584—Pressley P. McPeak and Bert A. Rains, Willits, Calif. Tire holder.

1,317,585—Colin Macbeth and Harry Clarance Young, Birmingham, England, assignors to the Dunlop Rubber Co., Limited, Westminster, London, England. Solid rubber tire.

1,317,615—Frank N. Cordell, St. Louis, Mo. Tire abrader.

1,317,661—Burgess Darrow, Akron, Ohio, assignor to the Goodyear Tire & Rubber Co., Akron Ohio. Vulcanizing apparatus.

ISSUED OCTOBER 7, 1919.

1,317,701—Arthur H. Gruber, Evanston, Ill., assignor to one-third to Edmund Hoffman, Racine, Wis. Tire fabric.

1,317,729—Isaac Rosenfield, Anaconda, Mont. Resilient wheel.

1,317,831—Jesse G. Smith, Port Arthur, Tex., assignor to one-fourth to Oscar N. Barnett and one-fourth to Louis C. Baumer, Port Arthur, Tex. Tire structure.

1,317,848—Jacob J. Wohlgemuth, Chicago, Ill. Tire retreading press.

1,317,849—Jacob J. Wohlgemuth & Louis L. Korach, Chicago, Ill. Said Korach assignor to said Wohlgemuth. Tire moulding and vulcanizing press.

1,317,850—Jacob J. Wohlgemuth, Chicago, Ill. Tire vulcanizing core.

1,317,860—Harry E. Butcher, Cleveland, Ohio, assignor to the Standard Parts Co., Cleveland, Ohio. Vehicle wheel rim.

1,317,887—Edward Nall, Akron, Ohio, assignor to the Goodyear Tire & Rubber Co., Akron, Ohio. Apparatus for attaching tire bases to rims.

1,317,904—Fred E. Anderson & David S. Erickson, Osage, Kan. Said Anderson assignor to said Erickson. Vulcanizing mold for tire casings.

1,317,913—Olof A. Exkre, Kindred, N. D. Spring wheel.

1,317,976—John F. Hower, Akron, Ohio, assignor to the Firestone Tire & Rubber Co., Akron, Ohio. Butt-End inner tube.

1,318,026—Benedetto Tamburello, New York, N. Y. Filler for tires.

1,318,032—Thomas P. Turner, Durand, Mich. Automobile tire remover.

1,318,064—Joseph Frie, Fountain City, Wis. Non-skid tire chain.

1,318,077—Gustave A. Harmuth, Drumright, Okla. Tire boot.

1,318,081—Bert F. Hosley, Syracuse, N. Y. Non-skid chain fastening means.

1,318,095—John P. McDonald, Orange, Tex. Interliner for tires.

1,318,113—Harry Atwood Scott, Berkeley, Calif. Tire testing and inflating gage.

1,318,119—Harry B. Wallace, St. Louis, Mo. Tire.

1,318,259—Henry Bohne, Dodge, Nebr. Resilient wheel.

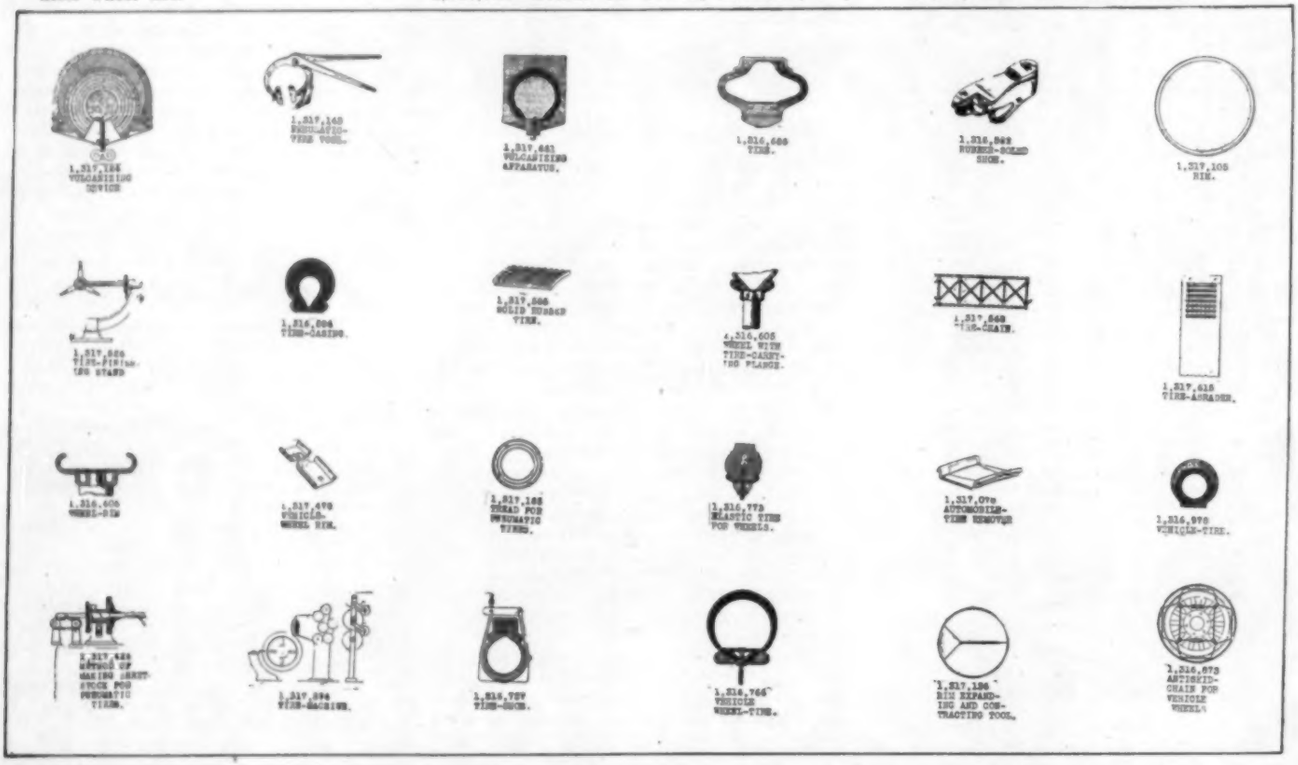
1,318,268—Guiseppe D'Agostino, Rome, N. Y. Tire protector.

1,318,270—William F. Farnsworth, Washington, D. C. Resilient tire.

1,318,273—Frederick D. Goodlake, Memphis, Tenn. Vulcanizing apparatus.

1,318,274—Benjamin F. Gowdey, Englewood, N. J. Demountable rim.

1,318,295—John McMurra Loveless, Glezen, Ind., assignor of one-half to C. C. Wilton, Glezen, Ind. Demountable rim.



Wild and Plantation Rubber

A western newspaper has the following to say, under the caption, "Rubber, Wild and Tame," on the subject of the application of American capital to the growing of rubber on the western continent.

In the month of June, this year, 3,517,028 pounds of crude rubber were shipped from Brazil and Peru. Of this, 2,611,002 pounds—well over two-thirds of the total—came to the United States. The rest went to Europe. These proportions are fairly constant throughout the year.

Virtually all of this was wild rubber, gathered from the jungle—but is there any good reason why this condition should be allowed to continue? British planters have proved that rubber orchards pay even in the closest competition with the jungle product. The demand for rubber is enormous, and is sure to increase. The western hemisphere has some of the finest natural ground for this industry and the tree which yields the best material is a native of Brazil.

Why should not American capital duplicate in the western continent the success which British capital has achieved in the eastern?

Increase in Automobile Registration

There is one motor vehicle for every fifteen persons in the United States. This calculation is based on the latest authentic automobile and truck registration figures which have just been compiled by the B. F. Goodrich Rubber Company. The total number of passenger cars and trucks listed is 6,786,550. This represents a thirteen per cent. gain over the 6,023,605 registry of January 1, 1919. In other words, the latest tabulations show that 762,945 more cars are now in use than there was the first of this year.

A neck and neck race is being waged between New York and Ohio for leadership in state registration—the Goodrich figures showing New York with a registration of 502,785, while Ohio trails closely behind with 480,000 cars and trucks. Nevertheless Ohio is forging ahead in motor ownership at a faster clip than in New York state and may step into first place before the first of the year. Next in the " big six " group, named in order of their rank, are Pennsylvania, Illinois, California and Iowa.

During the period since the first of the year fifteen states have made percentages of increase greater than the national increase of thirteen per cent. Those states are Ohio, California, Georgia, Virginia, Tennessee, North Carolina, Kentucky, South Carolina, Alabama, West Virginia, Louisiana, Idaho, Utah, Wyoming and Delaware.

It will be noted that nine of these are southern states, and their percentage of increase as a whole is twenty-two. Tennessee, West Virginia and Kentucky lead the South as well as the entire nation, and in the order named. Unprecedented cotton and tobacco prosperity has placed this section of the country well to the fore. Since 1917 the census of automobiles in the southern states has increased better than 100 per cent.

Iowa still maintains her position as the leading state in per capita ownership with a car for every 6.95 persons. Nebraska is "runner up" with one for 7.01 persons. The tail-end position goes to Mississippi with one car to 47.89 persons.

The most fertile field for the automobile salesman is in the mid-west, as the following figures of population per car will point out. They rank next in order to Iowa and Nebraska for automobile density:

	Population per car.
South Dakota	7.75
California	7.82
Montana	8.84
Kansas	9.09
Wyoming	9.61
North Dakota	10.09
Minnesota	10.21
Michigan	10.90
Arizona	10.91
Ohio	10.98
Indiana	11.19
Wisconsin	11.36
Colorado	11.48

Over half the automobiles and trucks in the United States—3,641,260—are found in ten states. They are: New York, Ohio, Pennsylvania, Illinois, California, Iowa, Michigan, Texas, Indiana and Minnesota. Each has a registration greater than 225,000.

New Employment Head for Mason

F. E. Schmiedel, for the past five months paymaster for the Mason Tire and Rubber Co., in charge of the payroll department, has taken up the duties of employment head. He succeeds R. B. Strimple, who has taken charge of the payroll work. Mr. Schmiedel is exceptionally well qualified for his new position and has acquired experience of such a nature as to guarantee his success.

Finck Buys Cooperage Company

J. C. Finck Mineral Milling Company, St. Louis, last week bought the complete equipment and stock of the Lambert Cooperage Works, St. Louis, which is one of the largest machine slack barrel plants in St. Louis, and has a capacity of 135 barrels per hour. The J. C. Finck Mineral Milling Company will move the equipment of the Lambert Cooperage Works and install on the premises of their plant.

Anthes Is Manufacturers' Agent

J. I. Frank Anthes has established himself as a manufacturers' broker and agent with an office at Room 707 Drummond Building, Montreal, and is specializing in materials required by the rubber and leather shoe industries.

Mr. Anthes having been with the Canadian Consolidated Rubber Company, Limited, since its inception and having served in various executive capacities in their different footwear, mechanical and tire factories, became well fitted for the position of Supervisor of Purchases of the Dominion Rubber System, which position he capably filled for several years, and is an assurance that the trade will benefit by the knowledge and practical experience he has acquired.

J. I. F. Anthes

The assured increase in the rubber goods and shoe output for both domestic and foreign trade was mainly instrumental in Mr. Anthes becoming the pioneer broker and agent to specialize in the raw materials required for these industries.

Mason Building Operations

As a result of the decision of the directors and stockholders to increase the capital to $7,500,000, the Mason Tire & Rubber Company has started building additions to their factory which it is estimated will make this company fifth in production among the tire companies of the Akron district. The additions not only are for the factory, but are for the general and factory offices, garages and restaurant.

In the same yard the contractors are finishing the third and last floor of the main building of the Mason cotton fabrics mill. The combination of these two factories makes one of the best layouts of any of the rubber factories.

Crude Rubber Imports

According to the figures compiled by the Rubber Association of America, importations of crude rubber into this country during September of the present year were nearly three times the amount which came into the United States during the corresponding period in 1918. In September of last year importations of crude rubber were still under Government control. The figures are as follows:

PLANTATIONS.

From.	Tons.
Liverpool	70
Southampton	106
London	866
Port Swettenham	107
Port Dickson	9
Singapore	3,318
Delli	816
Colombo	1,518
Rotterdam	56
Batavia	183
Havre	6
Sourabaya	143
Penang	243
Belawan	2,574
Japan and others	128
Total	10,143

MANICOBA AND MATTO GROSSO.

Montevideo	15
Santos	81
Total	96

AFRICANS.

Hull	25
Sierra Leone	171
Bordeaux	68
Liverpool	46
Antwerp	2
Total	312

CENTRALS AND GUAYULE.

Centrals (Mexico and Central America)	51
Guayule (Mexico)	11
Total	62

PARAS.

Manaos	1,505
Para	1,800
Iquitos	19
Ceara	93
Buenos Aires	6
Total	3,423

GUMS, WASTE RUBBER, ETC., IMPORTED FROM VARIOUS SOURCES.

	Tons.
Waste	464
Balata	50
Miscellaneous gums	569

COMPARISON, 1918-1919.

	Sept., 1918.	Sept., 1919.	Total importations for 9 mos. end. Sept. 30, 1919.
Plantations	4,613	10,143	131,853
Paras	513	3,423	20,060
Africans	124	312	2,036
Centrals	29	51	1,135
Guayule	74	11	1,453
Manicoba and Matto Grosso	..	96	259
Total	5,353	14,036	156,796

PLANTATION ARRIVALS FOR SEPTEMBER, 1919.

From— Arrived at—	Tons.
Singapore, New York	2,304
Singapore, San Francisco	564
Singapore, Vancouver	450
Penang, New York	4
Penang San Francisco	239
Batavia, New York	183
Sourabaya, New York	143
Japan and others, San Francisco	20
Japan and others, New York	108
Rotterdam, New York	56
Colombo, New York	1,518
Delli, New York	816
Havre	6
Belawan, New York	2,574
London, New York	866
Port Dickson, New York	9
Port Swettenham, New York	107
Liverpool, New York	70
Southampton, New York	106
Total	10,143

ARRIVALS OF PLANTATIONS BY PORTS.

Atlantic ports—	Tons.
New York	8,870
Pacific ports—	
San Francisco	823
Vancouver	450
Total	10,143

ACETONE C. P. BLANC FIXE
CARBON TETRACHLORIDE
SULPHUR MONOCHLORIDE
CARBONATE MAGNESIA
PRECIPITATED CHALK ENGLISH

Drug and Chemical Department

National Aniline and Chemical Company, Inc.

Main Sales Office

21 Burling Slip, New York

F. R. Henderson & Co.

IMPORTERS

Crude Rubber

NEW YORK CITY AKRON, OHIO